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Editor's Note

Historians seem to thrive on controversy. A researcher uncovers new evidence, or suggests a new way of looking at the existing evidence, and the debate is joined. No long-held belief is sufficiently sacred to resist scrutiny then reinterpretation, often followed by valiant defense.

This is as it should be, for controversy is what makes history a dynamic rather than static discipline. Most historians are aware that, in the second half of the twentieth century, the practice of history has undergone a revolution. Groups and topics previously ignored are now embraced with enthusiasm. We now recognize that material culture is as important to the writing of history as is the documentary record. And in recent decades, methods of statistical analysis and the use of computers have made the study of history a science as well as an art.

The "new" or "revisionist" history challenges the accepted vision of the past and demands a reinterpretation. Controversy ensues. One current example was discussed here several months ago — the debate among historians surrounding the observance of the Columbian quincentenary. For the American maritime history community, however, another controversy is much closer to home. It concerns one of the most famous vessels in U.S. naval history, the USS *Constellation*.

Authorized by Congress in 1794 and launched in 1797, *Constellation* was one of the first vessels built for the fledgling United States Navy. She saw action during the Quasi-War with France, protecting American trade from French privateers in the Caribbean. During that conflict, *Constellation* gained fame by capturing *L'Insurgente*, reputed to be one of the fastest frigates in the French navy, and seriously disabling another French vessel, *La Vengeance*. Later she served in the Mediterranean Squadron sent to fight the Barbary pirates. During the War of 1812 she helped repulse a British attempt to take the port of Norfolk. As part of the East India Squadron, she circumnavigated the globe in the early 1840s; two decades later, she guarded Union shipping in the Mediterranean during the Civil War. Her subsequent long career as a training ship at the ports of Norfolk, Philadelphia, Annapolis, and Newport was interrupted by occasional special missions: she delivered donations of food to Irish famine victims in 1880 and sailed to Gibraltar in 1892 to transport works of art for the Columbian Exposition. Thus, when the Navy offered the vessel to the city of Baltimore (where *Constellation* had been built), the city was understandably anxious to put the historic ship on display.

A question soon arose, however, about whether the vessel given to Baltimore was in fact the same vessel built there in 1797. The leading doubter was noted naval historian Howard Chapelle, who suggested that the vessel on display did not undergo a rebuilding in the 1850s, as was thought, but had been scrapped and a new *Constellation* built. Not surprisingly, many disagreed. The debate raged for several years with no resolution, and when Baltimore's Inner Harbor was completed, the vessel was given a place of honor there as the Navy's oldest warship.

Then in September of 1991, attendees at the Tenth Annual Naval History Symposium at the Naval Academy at Annapolis became the first to hear the opening salvo in a new round of the debate. It was fired by Dana Wegner, Curator of Models at the Navy's David Taylor Model Basin in Bethesda, Maryland. In a lengthy report, Wegner presented new evidence to support Chapelle's view that the *Constellation* on display in Baltimore was built not in 1797 but in 1853-55.

Needless to say, many still disagree. In the past fifty-one years, much has been written in *The American Neptune* about this vessel and about the controversy surrounding her origin, and the *Neptune* is pleased to participate in this important debate once again by presenting in this issue articles from proponents on both sides of the argument. Furthermore, we hope that our readers will share with us their views on the controversy in future issues.

Congratulations are in order for the winners of the Francis B. Lothrop Prize, given to the authors of the two best articles appearing in the *Neptune* in 1991. The selection committee awarded first prize to Raymond E. Ashley for his article "The Search for Longitude" (Fall, 1991), and second prize to Richard Eddy for "'Defended by an Adequate Power': Joshua Humphreys and the 74-Gun Ships of 1799" (Summer, 1991). We appreciate these contributions to the literature of maritime history.

TIMOTHY J. RUNYAN

Cleveland, Ohio

An Apple and an Orange: Two *Constellation*s at Gosport, 1853-1855

DANA M. WEGNER

The present USS *Constellation*, said to have been built in Baltimore in 1797, was transferred in 1955 by the Navy to a group of Baltimore citizens for preservation and display. Since 1947 some historians have believed the ship now on display is an entirely different warship with the same name built near Norfolk, Virginia in 1855. Others disagree. Was she built in 1797, or is the claim a mistake or a hoax? Despite the debate, millions of federal, state, and city dollars plus gifts-in-kind have been granted by individuals, patriotic groups, tourists, and corporations to support the ship's upkeep and restoration.

The controversy over the age of the existing *Constellation* has been waged in newspapers, on television, and in books for almost half a century. The Navy and the Interior departments, Congress, the Maryland state legislature, the City of Baltimore, the Maryland Historical Society, the National Archives, and the Smithsonian Institution have all been involved in the dispute.

In September 1991, the Navy's David Taylor Research Center published an official report called *Fouled Anchors: The* Constellation *Question Answered*, written by the author with appendices by Colan Ratliff and Kevin Lynaugh.[1] The purpose of the study was to utilize an interdisciplinary team to examine new evidence in order to determine the identity of the present *Constellation*. Was she built in 1797 or 1855? Since the controversy is one of the most emotionally charged debates in recent American maritime history, the subject would not have been revived had not fresh and considerably important historical, artifactual, and technological evidence been discovered. Is the *Constellation* the oldest warship afloat in the world? Or is she the last sail-only warship designed by the U.S. Navy? Responsible stewardship of this irreplaceable ship, still afloat in Baltimore, demands that we fully understand her history.

Fouled Anchors concluded that available documentary, artifactual, and architectural evidence indicated that the frigate *Constellation* was built in 1796-97 and torn apart in 1853. In 1853-55 a new sloop-of-war named *Constellation* was designed and built. It is the new sloop-of-war which is displayed today. Regardless of whether the ship was built in 1797 or 1855, however, the *Constellation* of today is an artifact of first importance that truly deserves to be preserved and displayed for the American public.

Part One of *Fouled Anchors* began with a very brief specific history of the ship followed by a review of the debate over its authenticity from 1947 until 1975. Best known were the champions of each side of the debate: Howard I. Chapelle, who advocated an 1854 origin, and Leon Polland, who advocated the 1797 date. But other major figures in the controversy included Marion V. Brewington, William A. Baker, John Lyman, and Admiral Ernest M. Eller. A modern study of the argument had to

The views represented in this article are those of the author and not necessarily those of the David Taylor Model Basin, Naval Surface Warfare Center, or the Department of the Navy.

1. Dana M. Wegner, *Fouled Anchors: The* Constellation *Question Answered* (Bethesda, MD: David Taylor Research Center Technical and Administrative Services Department Research and Development Report DTRC-91/CT06, September 1991). Hereafter, this report will be cited as *Fouled Anchors*. As this article was drafted, plans had been made for serialized publication of the report, without footnotes, in *Seaways* magazine throughout 1992. The first installments appeared as Dana Wegner, Colan Ratliff, and Kevin Lynaugh, "Fouled Anchors: The *Constellation* Question Answered," *Seaways* 3, no. 1 (January/February 1992): 18-23 and 3, no. 2 (March/April 1992): 12-16. The full illustrated version with notes and bibliography is available for a fee through the U.S. Department of Commerce, National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161. Reference report AD A241-916. On 2 January 1992, the David Taylor Research Center was renamed the David Taylor Model Basin, Carderock Division Headquarters, Naval Surface Warfare Center. The old name will be used here for consistency.

account for the documentation each researcher used in reaching his conclusions. Until the discovery of a large body of important records in private hands, much of that documentation had been obscured from scholarly examination. The review also included an account of how the actual age of the vessel became clouded.[2]

Part Two of *Fouled Anchors* documented the efforts and findings of a team of researchers at the David Taylor Research Center assembled to investigate the documentary, artifactual, and architectural evidence relating to the problem. The Federal Bureau of Investigation, the Bureau of Alcohol, Tobacco and Firearms, the Library of Congress, and the Smithsonian Institution also aided in the examination.

The report found, among other things, that about twenty-two significant historical documents had been regularly used to support the 1797 origins of the present *Constellation*. The Federal Bureau of Investigation and the Bureau of Alcohol, Tobacco and Firearms showed four of these documents to be modern forgeries. Seventeen other documents could not be found in the archival sources from which they were supposed to originate, and they also contained certain grammar, syntax, appearances, and sources similar to the proven forgeries. One document was ambiguous. Essentially all of the explicit historic documentation commonly employed until 1975 to support the eighteenth-century building of the present ship appeared to have been forged between 1956 and 1965 by a former long-standing researcher and employee of the ship who was unmasked by Leon Polland, a fellow supporter. The forger had access to the *Constellation*'s on-board historical files. There was no evidence found that indicated that others associated with the ship fully appreciated the extent to which the supporting case had been poisoned.

Appendix A of *Fouled Anchors* was written by Colan Ratliff, a ship model conservator on the staff of the Navy's Curator of Ship Models and a specialist in the design of nineteenth-century American ships. His contribution offered a reconstruction of nineteenth-century naval architectural standards and techniques. One result was a method of comparing the developing designs of early wooden warships, based on displacement and hydrodynamics rather than the traditional comparisons of tonnage, guns, decks, and length. This mode of comparison was used to examine, as controls, a number of different contemporary ship's plans, including the designs of the *Constellations* in 1795 and in 1853.

Appendix B was written by Kevin Lynaugh, a supervisory naval architect at the David Taylor Research Center and a specialist in applying computer technology to ship design who is also experienced in historic ship preservation. Lynaugh provided a similar examination of the hydrodynamic design of the ship from a modern perspective using state-of-the-art computers.

Official records state that the ship that entered the Gosport Navy Yard near Norfolk, Virginia in 1853 was a two-gun-deck frigate built in 1797 and the ship that emerged in 1855 was a one-gun-deck sloop-of-war. This article will begin with the story about what happened at Gosport. Some of the documentary, artifactual, and architectural evidence employed in reconstructing the Gosport story will then be described and explained. The basic opposing theories will be discussed and their supporting evidence evaluated. In the end, the potential of the ship as an artifact will be examined. Interwoven in this presentation will be the answers to two basic questions. First, is there any portion of the hull form of the frigate of 1797-1853 present in the vessel today? Second, is there any substantial material from the frigate of 1797-1853 present in the vessel today?

GOSPORT, 1853-55

The introduction of the shell gun and steam propulsion in the nineteenth century made it clear that the future of frigates and ships-of-the-line was limited. Consequently, the Navy yards' stockpiles of spare structural timbers for both repair and new construction of such vessels were large and potentially surplus. The *Constellation* had been brought to the waters near the Gosport Navy Yard in 1845 and placed in mothballs, or "in ordinary." Her hull twisted and drooping, she had been much repaired but was still the old frigate of 1797. By 1853 the Navy realized the poor condition and antiquated design of the *Constellation* and decided to break up the ship and build a new one.[3]

2. From 1854 until 1908, official records listed the *Constellation* as built in Norfolk in 1854. Beginning in 1909, for undetermined reasons, records began to show her as built in Baltimore in 1797. By 1914 the Navy believed she was launched in 1797 and doubts about her age were not realized until 1948. *Fouled Anchors*, 6-10.

3. "Constellation. Commenced Repairing at Gosport in the Month of Jany — Completed July 1829," "At Gosport repaired in Feby - March 1832," "Commenced repairing at Gosport 16th Decem 1834 and was finished October 1835," all from "Returns of Repairs to Vessels, 1820-1849," Naval Records and Library, Entry 5, Record Group 45, National Archives and Records Administration, Washington, D. C. (Hereafter this record group will be cited as NA, RG 45); Returns for repairs on U.S. Frigate *Constellation*, April, June, September, October, November, December 1825; "Returns . . . of Materials used in Repairing U.S. Ship Constellation . . . ," March, April, May, June, July, September, October-

The nation's foresighted provision for the Gradual Increase of the Navy had its roots in the years soon following the War of 1812. A little-acknowledged but important legislative contribution to the welfare of our Navy, this act of 29 April 1816 provided $1 million a year for eight consecutive years to purchase timber and build a fleet of ships to be kept ready on stocks. Five years into the program, the amount provided was adjusted downward to $500,000 a year. The "Act for the Gradual Improvement of the Navy of the United States" was readily renewed by Congress on 3 March 1827, now authorizing the president to procure substantial amounts of live oak timber each year to be placed in stockpile. In other words, Congress granted $500,000 per year for each of six consecutive years at a time when the national debt was $10 million. Although in 1827 Congress believed that no new ships needed to be built immediately, they were told the oak could be safely stored in sheds or submerged for as long as a century. Funds under this appropriation could not be applied for other purposes, nor could the funds be declared surplus. If not spent, money in the appropriation could be accumulated and carried over from year to year. The Gradual Increase Act was renewed for another six years in 1833. Beginning in 1840, the appropriation was renewed annually in the regular naval appropriation acts with language also permitting other timber, repairs, and armament for ships. The Navy called the appropriation "Gradual Increase, Repairs, Etc."[4]

Suitable live oak timber was an essential material for naval shipbuilding, and it took a long time to obtain. For specific ships, sets of full-sized templates called "rough moulds," representing the components of each ship's frames, were transported to the contractors — "live oakers" who encamped in swampy, largely uninhabited areas, initially along the South Carolina, Georgia, and Florida coasts. In the field, the rough moulds were matched directly to the wood grain of specific parts of individual trees. The trees were felled and dressed on the spot to rough mould size with axes and adzes, marked, then hauled by oxen to piers and loaded on coastal vessels for delivery to the yards. Live oak, prized for its iron-like strength, was best harvested from December to March when the sap made the wood easier to cut.[5]

Beginning in 1816, but primarily between 1827 and 1839, stockpiles of live oak deposited at the Navy yards were developed for each type of vessel: ships-of-the-line, frigates, sloops, steamers, and brigs. The hull form within each type of ship was relatively similar, and each stockpile therefore embodied generic precut, or "moulded," pieces of live oak timber for frames. The stockpiles also had pieces which were not specifically preshaped called "promiscuous timber." Keels, keelsons, and beams for each type ship were also stockpiled. Spare frame components for each type of ship were stored segregated and submerged in timber ponds or under sheds, awaiting their need. Live oak framing timber could be stored safely for decades. In July 1853 at the Gosport Navy Yard near Norfolk, Virginia, the stockpile included, for example, 90,400 cubic feet of precut frame components and ten full

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November, December 1828 and January-April, May, June, July, August 1829; "Constellation Repairing. Report of the State and Condition and of the Work done . . . ," 15-30 November, 1-15 December, 16-31 December 1838, 16-28 February, 1-15 March, 15-31 March, 1-15 April, 16-30 April, 16-31 May, 1-15 June, 16-30 June, 1-15 July, 16-31 July, 1-15 August, 10-31 August 1839 and 16-31 March, 1-15 April, 15-30 April, 1-15 May 1840, all in Subject File AR, "Repairs to U.S. Ships, 0-1859," NA, RG 45; Samuel Hartt, "Report of the examination of vessels on the stocks & in Ordinary, to ascertain their positions, stability, etc., in accordance with the Circular Order of 26th January 1833," 1 May 1846, Subject File AL, "Ships in Ordinary and Reserve; Gosport Navy Yard, 0-1859," NA, RG 45; W. B. Shubrick to John Kennedy, 18 August 1852, John Lenthall to J. C. Dobbins, 17 December 1853, in "Letters Sent to the Secretary of the Navy," Records of the Bureau of Ships, Entry 49, Record Group 19, National Archives, Washington, D. C. (hereafter cited as NA, RG 19); *Annual Report of the Secretary of the Navy*, 1850, 231; Harold D. Langley, "James Cochrane Dobbin," in Paolo E. Coletta, ed., *American Secretaries of the Navy*, vol. 1 (Annapolis: Naval Institute Press, 1980), 279-300; Alfred T. Mahan, *From Sail to Steam: Recollections of Naval Life* (New York: Harper Brothers, 1907), 3-10, 25-35. The Gosport Navy Yard is now known as the Norfolk Naval Shipyard despite the fact that it is not located in Norfolk.

4. "An Act for the gradual increase of the Navy of the United States," 14th Cong., 1st sess., April 29, 1816, in Richard Peters, ed., *The Public Statutes at Large . . .*, vol. 3 (Boston: Charles C. Little and James Brown, 1846), 321. The word "increase" was used in 1816 and the word "improvement" was used in 1827 and 1833. "Increase" returns in 1840 and later. For background on the Gradual Increase law, see Robert G. Albion, *Makers of Naval Policy, 1798-1947* (Annapolis: Naval Institute Press, 1980), 187-189; Charles O. Paullin, *Paullin's History of Naval Administration, 1775-1911* (Annapolis: Naval Institute Press, 1968), 177; William S. Dudley, ed., *The Naval War of 1812: A Documentary History*, vol. 1 (Washington: GPO, 1985). For background in the use of the Gradual Increase Appropriation, see Edwin C. Bearss, Historic Resource Study, *Charlestown Navy Yard, 1800-1842*, vol. 1 (Washington: National Park Service, 1984), 254, 281, 319-321, 345-346. For an excellent history of Gradual Increase legislation see *Gales and Seaton's Register of Debates in Congress*, 19th Cong., 2d sess., 348-376. The legislative history following 1827 can be tracked through progressive volumes of *Public Statutes At Large*.

5. On live oak, see Virginia Steele Wood, *Live Oaking: Southern Timber for Tall Ships* (Boston: Northeastern University Press, 1981); Alice Strickland, *Ormond-on-the-Halifax* (Holly Hill, FL: Southeast Printing, 1980), 27-31; Bearss, *Charlestown Navy Yard* 1: 61-62, 267, 269, 368; Bess Glenn, "Cathcart's Journal and the Search for Naval Timbers," *The American Neptune* 3, no. 3 (July 1943): 239-249.

sets of beams just for ships-of-the-line, as well as 15,172 cubic feet of precut framing timber for sloops and seven complete sets of keelsons for sloops. Building a new ship from stockpiled pieces, especially obsolete pieces, would have been an ideal method of drawing down the lesser-needed supplies to a more economical level — a trend which had been in evidence for several years prior to 1853.[6]

The Navy was free to utilize the stockpile of live oak and could cover its labor costs from the Gradual Increase annual appropriation. The Act of 3 March 1827 clearly permitted it. However, both Congress and the Navy Department were sensitive to the long-term costs of maintaining and manning ships. There was little interest in vastly increasing the size of the fleet. Aware of progress by other nations, the Navy wanted instead to improve the quality of its vessels. With no apparent pretense of secrecy, the Navy eventually chose to substitute a new sailing sloop-of-war named *Constellation* for an old frigate with the same venerable name. The old ship had been in ordinary at Gosport since 1845, and the timber stockpile at that yard was more than ample. All charges to the Gradual Increase appropriation were meticulously tabulated by Navy agents and pursers, reported to the fourth auditor of the U.S. Treasury (known as "the Navy Accountant") and then to the Second Comptroller of the U.S. Treasury. The annual costs, by law, were reported directly to Congress by the Secretary of the Navy. A fresh sailing ship with auxiliary steam propulsion was probably preferred, but purchasing boilers and engines for a steamer required Congressional funding, and several new steamers were already under construction supported by specific appropriations. The new *Constellation* would therefore represent the best sail-only design available. Mounting modern eight-inch shell guns, she would be a sloop-of-war capable of good speed and tremendous range, and would be the equal of any sailing warship of her type. The Navy had no real strategic plans, but it was clear that for distant cruising, reliable and inexpensive sail was still competitive with coal-gobbling steamers.[7]

From mid-November until early December of 1852, tons of iron ballast were hoisted from the old *Constellation*'s hold onto a dock and moved into the Gosport yard. With several jobs to do, work crews were frequently diverted to different tasks, leaving idle other projects already in progress. In preparation for hauling the ship out of the water, dimensions were taken from the keel. The original building plans of 1795 could only be used to a limited extent because the bow and stern of the hull of the old ship had drooped, or "hogged," and had twisted in shape over the years. On 22 February 1853 the old frigate was moved from the dock to the North Slip, and the following day at 1:00 P.M. she was hauled out of the water and up the masonry-faced incline into the weather. Some evidence suggests that the decision either to reconfigure the old frigate or to build a new sloop had not been made by this time. A drawing was made of the shape of the ship's hull to aid in placing shoring required to hold the vessel upright. The demolition progressed, and on 16 May crews began cutting up the timbers of the old frigate. Hundreds of pounds of copper, brass, and iron pieces which could be melted for scrap and 22,940 pounds of wrought iron ballast were accumulated and turned in to the storekeeper. On 12 September 1853 the Commandant of the yard wrote to the Secretary of the Navy and asked for

6. On cutting and stockpiling moulded timber, see Bearss, *Charlestown Navy Yard* 1: 298-299, 308, 545-546, 538-539, 588 and 2: 650-651, 797, 905-906. The Gosport stockpile is detailed in "Returns of Stores at Navy Yards and Naval Stations," vol. 175, Gosport Store Returns, July 1, 1853 - July 1, 1854, 17, 19, Entry 320, NA, RG 19. Building an earlier ship from the stockpile is in Bearss, *Charlestown Navy Yard* 2: 804. The trend to draw down the stockpile is evidenced in the statements of cost, or estimated value of stores on hand, for each yard regularly listed in the *Annual Report of the Secretary of the Navy*. See that report for 1850 (240); 1851 (86); 1852 (363); 1853 (422); 1854 (485). For storing live oak submerged, see blueprint, "Location of Live Oak," Navy Yard Portsmouth, NH approved 20 June 1931, Leon D. Polland Papers, privately held (hereafter these papers will be cited as Polland Papers). A Civil War era photograph of a timber shed at the Washington Navy Yard can be seen in James Barnes, ed, *The Photographic History of the Civil War in Ten Volumes*, vol. 6 (New York: Thomas Yoseloff, 1957), 167.

7. On shipbuilding programs at the time, see K. Jack Bauer, "Naval Shipbuilding Programs, 1794-1860," *Military Affairs* 29, no. 1 (Spring 1965): 29-41; Kenneth J. Hagan, *This People's Navy: The Making of American Seapower* (New York: Free Press, 1991), 138-140; John H. Schroeder, *Shaping a Maritime Empire* (Westport, CT: Greenwood Press, 1985), 1-18, 79-99, 187-190; C. Joseph Bernardo and Eugene H. Bacon, *American Military Policy: Its Development Since 1775* (Westport, CT: Greenwood Press, 1974), 180-184; Leonard D. White, *The Jacksonians: A Study in Administrative History, 1829-1861* (New York: The Macmillan Company, 1954), 213-231. Part of the accounting trail for Gradual Increase expenditures during the period can be found in "Office of the Fourth Auditor, Letters Sent to Government Officials, 1820-1868," Records of Accounting Officers of the Treasury Department, vol. 7, Entry 809, Record Group 217, National Archives (hereafter NA, RG 217). For amounts charged against Gradual Increase funds by various yards, see "General Ledgers, 1798-1900," Navy Ledgers vol. "S", 32, 34, 35, 44, 47, 57-58, 75, 91, 118, 120, 124, 172, 175, 185, Entry 765, NA, RG 217. Some advocated building more sail-only sloops similar to *Constellation;* see letter to editor, *The Monthly Nautical Magazine and Quarterly Review* 1 (October 1854 to March 1855): 396-397. On reusing the name, see J. F. Ayers Memorandum for OP-29B and OP-29, 28 December 1953 with attachments, ship's history file "Constellation," Ships History Branch, Naval Historical Center.

permission to auction off the old timbers.[8] The frigate *Constellation*, clearly, was no more.

With the help of Edward H. Delano, the naval constructor assigned to Gosport, leading Naval Constructor John Lenthall decided, probably by early May 1853, to scrap all of the structure of the old frigate. In Washington, he began his new sloop design. Probably designing within the size and shape limits of the live oak stockpile, Lenthall executed a preliminary drawing in May 1853, then a pine half-hull model in three feet to one-inch scale. The half model was sent to the Gosport mould loft where loftsmen would have disassembled the model, traced its components, and used the tracings to scale-up and develop the graceful curve of each frame full-size on the huge mould loft floor. As each frame was developed on the floor, measurements as accurate as .125 inches were recorded in tabular form which produced "offset tables" that recorded the size and shape of every frame that comprised the hull of the new ship. Outside, the old *Constellation* was being broken up. Later, in 1855, when details had been completed at the yard and the new ship was done, a final drawing would be executed giving a visual representation to the hundreds of measurements recorded in the offset tables. After designing the *Constellation*, Lenthall would soon begin his designs for the screw frigate *Franklin* (like the *Constellation*, a "substitute" ship), and five screw frigates of the *Merrimack* class, also to be built from timber stockpiles.[9]

As the new *Constellation* was being planned, in late May 1853 workers began to search out and collect timbers for the new ship from the sheds and timber pond within the yard. Some of the framing timbers had been in storage for more than twenty years. On 25 June 1853 the new timbers for the keel were carefully laid out, or placed, in Shiphouse B — a large enclosed building some six hundred feet away from the North Slip where the old ship was being destroyed. On 27 August the sternpost was raised and a few weeks later, the stem. Nine pieces of new white oak keel timber were used: five pieces selected from the old ship-of-the-line stockpile, three pieces from the frigate stockpile, and a single piece of more precious sloop material. The keel timbers had been in storage at the yard perhaps as long as eighteen years. Totalling 1,277 cubic

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8. Gosport log, 3, 18, 22, 23, 25, 26, 29 November 1852; 4, 6 December 1852; 1, 19, 20, 28 January 1853; 22, 23 February 1853; 16, 24, 25, 26, 27, 30 May 1853; 14, 25 June 1853, in "Journal of Daily Transactions at Navy Yards," Records of the Bureau of Yards and Docks, Entry 91, Record Group 71, National Archives, Washington. D.C. (hereafter this record will be cited as "Gosport Log" and this record group as NA, RG 71); Drawing, "For taking the shape of ship before docking," by Charles S. Bruff, undated (ca. 1817-65), "Grice Collection," no. 87, Entry 405-A, NA, RG 45; Robert Beebe, "The Art of Taking Off Lines," *Rudder* (November 1966): 42-47. Virginia Steele Wood, *Live Oaking*, 88-91, offers a good illustrated description of the design and lofting process. A good view of the workings in a commercial shipyard about this time is "The Building of the Ship," *Harper's New Monthly Magazine* 24, no. 143 (April 1862): 608-620. The destruction of the old *Constellation* is specifically mentioned in E. H. Delano to Samuel L. Breese, 11 June 1853, "Letters Received from Commandant Gosport Navy Yard, 1853-1854," Entry 5, NA, RG 71; Commandant, Gosport Navy Yard to Bureau of Construction and Equipment, 26 January 1854, entered 28 January 1854 in "Minutebook of the Bureau of Construction and Equipment," Entry 60-A, NA, RG 19 (hereafter this record will be cited as "Minutebook"); and Gosport Log, 16 May 1853. The request to auction the old timber is synopsized in Commandant, Gosport Navy Yard to Chief, Bureau of Construction and Equipment, 12 September 1853, and entry for 14 September 1853, Minutebook.

9. On Edward H. Delano's contributions, see W. B. Shubrick to J. C. Dobbin, 28 May 1852, "Letters from Bureaus of the Navy Department," Entry 32, NA, RG 45. On the ship design process at the time, see John W. Griffiths, *Treatise on Marine and Naval Architecture, or Theory and Practice Blended in Ship Building* (New York: D. Appleton and Company, 1854); Richard W. Meade, *A Treatise on Naval Architecture and Ship-Building* (Philadelphia: J. B. Lippincott and Company, 1869); Theodore D. Wilson, *An Outline of Shipbuilding, Theoretical and Practical* (New York: John Wiley and Sons, 1878). The Griffiths volume is particularly important. The Lenthall half model is in the collections of the U.S. Naval Academy Museum. A plan dated May 1853 is in the Lenthall Collection, Franklin Institute. The dimensions taken from the old ship prior to and after hauling out are 107-13-4A and B; a June 1853 plan is drawing 28-3-5; the offsets are 142-1-7; and the record drawings, 128547 and 128584, are dated November 1855, all in "Plans of Ships and Shore Establishments," Entry 126 (hereafter E 126), NA, RG 19. A copy of the offsets was mailed to the Bureau in Washington on 10 October 1853; see entry for 12 October 1853 in Minutebook. Later plans were sent to Washington on 22 March 1854; see entry for 24 March 1854, Minutebook. Actual letters between Gosport and the Bureau at this time have been lost, but the Minutebook synopsizes each incoming letter and lists dates and enclosures. On designing the *Franklin* in 1854 as a substitute ship, see Donald L. Canney, *The Old Steam Navy*, vol. 1 (Annapolis: Naval Institute Press, 1990), 46. On designing and building the *Merrimack* class in 1853-54 using the timber stockpile, see Canney, *Old Steam Navy* 1: 45-46; Benjamin Isherwood, *Experimental Researches in Steam Engineering*, vol. 1 (Philadelphia: William Hamilton, 1863), 157; J. C. Dobbin to Lenthall, 10 June 1854, "Letters Sent by the Secretary of the Navy to Chiefs of Bureaus, 1842-1886," microcopy M-480, NA. W. M. P. Dunne, "An Inquiry into H. I. Chapelle's Naval Research," *The American Neptune* 49, no. 1 (Winter 1989): 39-55, here 53, endnote 30, states that in 1854, the original *Franklin* (1815) was lengthened by seventy-five feet. No source for this conclusion is given. Navy Department, Chief of Naval Operations, Naval History Division, *Dictionary of American Naval Fighting Ships*, vol. 2 (Washington, D.C.: GPO, 1959-81), 443 and Donald L. Canney, *Old Steam Navy* 1:46 indicate that the old *Franklin* was broken up about 1852 and a new, longer screw frigate of the same name was designed in 1854 and launched in 1864; several half models still in the Navy collection support this view.

feet, the quantity of timber withdrawn was over 150 percent of the amount necessary to build a finished keel, stem, and sternpost for the sloop.[10]

Following suit, timber was withdrawn from various storage areas for frames and beams. Upon completion, some 16,387 cubic feet of live oak framing timber was withdrawn from the stockpiles, about 78 percent of which was promiscuous. This was, again, perhaps 150 percent of the net quantity required to build an entirely new sloop. Planking was not stockpiled but was withdrawn according to thickness from regular stores. As each material was used, the quantity was reported to the storekeeper, who sent monthly reports to the Bureau of Construction, Equipment, and Repair. The storekeeper kept an accurate account of the type and quantity of material dispensed, as well as its Gradual Increase appropriation costs which would be reported monthly to the Department of the Treasury. By regulation, he distinguished between stockpiled framing timbers, spars, and keel members as well as pre-used and new material. The storekeeper was also responsible for inventorying any reusable material salvaged from ships. The only pre-used material dispensed to the sloop were 204 white oak knees drawn from stock. There was no evidence that any material was transferred directly from the old ship to the new one.[11]

On 26 August 1854 at 11:45 A.M., according to the yard log, the "new sloop of war" *Constellation* was launched from Shiphouse B. Arming, masting, and rigging followed. Like framing timbers, the masting was built up from assorted spares retained for ships-of-the-line, frigates, and sloops. In the end, she was twelve feet longer and the same extreme beam as the previous *Constellation*. The new ship was commissioned on 28 July 1855. She would be the last warship powered only by sails designed and built by the U.S. Navy.[12]

The Evidence Reexamined

Gosport Yard Records

In preparing the report *Fouled Anchors*, the author found a considerable amount of evidence describing the work done on the two *Constellations* at the Gosport Navy Yard between 1853 and 1855. The log of the yard, well-known since 1954, described the changing duties of the work force and, on 16 May 1853, mentioned workers employed in cutting up the old frigate. The log recorded the withdrawal of timbers from the stockpile and the placing of the keel pieces and indicated that on 24 May 1853 laborers were employed splitting, piling, and burning her timber. Other independent records confirmed the breakers' task: a letter from Naval Constructor Edward H. Delano to Samuel L. Breese on 11 June 1853 told how many workers were employed on the "old *Constellation*" and how many were working on the "new *Constellation*." The cost of breaking up the *Constellation* was the subject of a letter from the Commandant of the Gosport yard to the Chief of the Bureau of Construction, Equipment, and Repair dated 26 January 1854. Finally, a letter sent by the Commandant of the Yard to the Secretary of the Navy, dated 12 September 1853, requested permission to auction the old timbers of the ship.[13]

But were some of the old timbers reused in the new ship? The Navy yard storekeeper was required to keep meticulous records regarding the movement and costs of both incoming and outgoing materials transferred by naval constructors into, or out of, his stock. Store records for the Gosport yard during the period were extant, and over four hundred entries described all of the materials withdrawn from stock for the new *Constellation*. The store records,

10. Gosport Log, 25 June, 27 August, 6 September 1853; "Plan of Navy Yard at Gosport, VA," January 1843, "Plans, 1876-1941" drawing 55-3-15, Entry 71, NA, RG 71; "Plan of Part of Gosport Navy Yard showing Proposed in change in Quay Wall Location & method of Construction," June 25, 1853 (Y&D No. 3987), Public Affairs Office, Norfolk Naval Shipyard, Portsmouth, VA; *The* (Norfolk, VA) *Southern Argus*, 11 July 1853; the keel pieces are documented in "Returns of Stores at Navy Yards and Naval Stations," Gosport Store Returns, August, September, October, November 1853, January, March, April, May 1854, Entry 320, NA, RG 19; Gosport Log, 25, 26, 27 May 1853. Evidently much material was lost converting bulky ship-of-the-line timbers to smaller-dimensioned sloop requirements.

11. On the storage and retrieval of plank stock, see Bearss, *Charlestown Navy Yard* 1: 427. On the storekeeper's duties, see Secretary of the Navy, *Instructions for Navy-Yards* (Washington, D. C.: William A. Harris, 1859), 20-24. An excellent photographic account of ship framing is Dana Story, *Building the Blackfish* (Gloucester, MA: Ten Pound Island Book Company, 1988). See also Wood, *Live Oaking*, 55, table 2.

12. Gosport Log, 26 August 1854. "New sloop of war" is quoted from the log entry of that day. Naval History Division, *Dictionary of Fighting Ships* 2: 171-172. Historian Admiral George Preble was active in the Navy in 1855, and in 1872 he wrote that the *Constellation* was ". . . now represented by a new ship bearing the same name." George H. Preble, *Our Flag: Origin and Progress of the Flag of the United States of America* (Albany, NY: Joel Munsell, 1872), 232.

13. Material has been previously cited, but is repeated here for clarity: Gosport Log, 16, 24, 25, 26, 27, 30 May; 14, 25 June 1853. E. H. Delano to Samuel L. Breese, 11 June 1853, "Letters Received from Commandant Gosport Yard, 1853-54," Entry 5, NA, RG 71. Commandant, Gosport Navy Yard to Chief, Bureau of Construction and Repair, 12 September 1853, entered 14 September 1853, and 26 January 1854, entered 28 January 1854, Minutebook.

companion documents to the log books, clearly recorded that nine pieces of keel timber were withdrawn from the stockpile for the sloop. The Navy research team used a simple computer program to track the materials used in constructing the ship.

The storekeeper's records tabulated both new and used materials entered into his inventory and, indeed, many tons of ballast and scrap metal were turned in from the old frigate. The only pre-used materials dispensed to the *Constellation* were 204 white oak knees. Since store records did not indicate that any reusable old knees were salvaged from the frigate, it was not likely that the 204 knees came from it. Records indicated that more than enough new timber was withdrawn from the stockpile to build the complete new sloop-of-war, but the possibility that some insignificant materials were transferred for nostalgic purposes could not be eliminated.[14]

Newspaper Accounts

One popular news account from *The Daily Southern Argus* published on 11 July 1853 at Norfolk had been used by both sides of the argument:

> *The Old Constellation* — This old time-honored and time-worn frigate of historical memory has been literally torn to pieces preparatory to the building of a new Constellation. Hundreds of men are employed directly or indirectly, upon her massive keel, which has been placed in one of the ship houses. . . . Her timbers are to be of live oak, ...

The passage was ambiguous because it was not clear whether the "her" in the second sentence referred to "the old Constellation" in the introductory statement or "a new Constellation" in the first sentence. At least one other early news account reflected initial uncertainty whether, in the future, the frigate would be converted to a sloop or whether a new design would prevail.[15]

There are, however, two unambiguous newspaper accounts from the period. The Washington, D. C. *Daily National Intelligencer* of 7 September 1854 said:

> Neither the Macedonian nor the Constellation have been cut down from frigates to sloops-of-war, as both of those vessels have been condemned and broken up, and two new vessels have been built to which those names have been given in order to perpetuate them in our navy. Though the two new vessels have a light spar-deck thrown over their guns for the purpose of working ship clear of the armament, as well as to protect the latter from falling spars and rigging in time of action, they still, it is true, are only what may be called sloops-of-war or single-deck vessels, as their spar deck is without armament, except one heavy pivot-shell gun forward and another aft. But still the ghosts of the old frigates need in no way be ashamed of them, for they are the two finest ships of their class that float the ocean, and, though designated as sloops-of-war, they each exceed in tonnage their former namesakes; and, fitted and armed as they are with shell-guns and all the modern naval improvements, either of whom could capture or destroy in ten minutes a frigate such as was the Constellation when commanded by TRUXTEN *(sic)* or the Macedonian when captured by DECATUR . . . .

The same basic article was reprinted in *The* (Norfolk, Virginia) *Daily Southern Argus* a week later and was unchallenged by the local readership, which was probably made up of many Gosport shipyard employees.[16]

Important to the question of the origin of the sloop's timbers was this first-person account of a tour of the Gosport yard given to a *Daily Southern Argus* reporter on 23 July 1853, a rainy Friday afternoon:

> As you enter the main gateway, on your left, at the north building slip, is seen the breaking up of the U.S. ship Constellation. This noble ship, commanded by the gallant Truxton *(sic)*, that captured the French frigate Le Insurgent off the Island of Nevis about the year '99 or 1800. This once famous ship is now rebuilding under cover of ship-house B. The keel, of the very best white oak, is in its place, and is

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14. The 204 pre-used knees are recorded in the January and May 1854 returns in "Returns of Stores at Navy Yards and Navy Stations," Gosport Store Returns, 1853-1854, Entry 320, NA, RG 19.

15. The 11 July 1853 newspaper snippet is quoted in Howard Chapelle and Leon Polland, *The "Constellation" Question* (Washington, D.C.: Smithsonian Institution Press, 1970), 37 (hereafter this book will be cited as *CQ*), and in Evan Randolph, "USS *Constellation*, 1797 to 1979," *The American Neptune* 39, no. 4 (October 1979): 235-255, here 246. A photocopy is also in Polland Papers. There are very minor errors in both Chapelle's and Randolph's transcriptions, and the original has been quoted here. A news article showing initial uncertainty is quoted in "USS *Constellation*," 244. A newspaper article supporting the 1797 origin of the ship is quoted in Dunne, "Inquiry into Chapelle's Naval Research," 43. Endnote 45 on page 53 cites the news article as from the "Southern Argus" of 25 July 1853, held by the Library of Congress. The Library of Congress does not maintain *The* (Norfolk, VA) *Daily Southern Argus* for that date. When the newspaper was located elsewhere, the article could not be found on, or near, the specified date.

16. Washington, D. C. *Daily National Intelligencer*, 7 September 1854; *The* (Norfolk, VA) *Daily Southern Argus*, 14 September 1854.

composed of nine pieces, all making about 176 feet in length, say 30 inches deep, the siding size about 18 inches.

The ship carpenters are employed under cover (God bless Uncle Sam for protecting these valuable men from the intense hot sun!) otherwise they would be much exposed in getting out the live oak frame, for hard work it is to prepare such timber — it is hard as iron, and as curly and twisting as a bull's forehead. Well it may be hard for 'tis said that it has been seasoning more than twenty years. The pieces of white oak the keel is made of, we are told, have been on hand about eighteen years. The workmen say that the pieces are as fresh and as sound as they were when first received in the Yard — such care has been taken to preserve them for the builder's use. . . .

Interestingly, a map used to trace the reporter's route through the yard attests to the article's accuracy.[17]

Designer's Half Model

In March 1989 the author became aware that there existed in the Navy's large collection of technical models a mislabeled half-hull model of the *Constellation*. If this proved to be John Lenthall's designer model it would add significant and tangible evidence that the sloop-of-war *Constellation* commissioned in 1855 was a fresh design. The half model, in three feet to one-inch scale, was carefully studied at the David Taylor Research Center and the Smithsonian Institution, and it was positively identified as the designer model for the sloop-of-war *Constellation*.[18]

Lenthall's use of a half model was substantial evidence that no part of the hull form, or moulded hull lines, of the frigate of 1797 was carried over to the sloop of 1855. Studies showed that if an older frigate hull form, and old timbers representing that form, had been reapplied to the new sloop, the lofting process would necessarily have been derived from a drawn plan which would have recorded at least some of the previous form. The scale half model could not have been made sufficiently precise to record, in miniature, an existing vessel and then be scaled up by a factor of thirty-six on the mould loft floor in order to duplicate accurately full-sized portions of an existing ship. With surprising accuracy, the model reflected the record plans of the sloop-of-war *Constellation* of 1855.[19]

Ship's Plans — Tables of Offsets

An abundance of plans existed which depicted the normal design process for the sloop in 1853. As would be expected, there were preliminary plans drawn by Lenthall in the spring of 1853, a half model, a second set of plans, the tables of offsets developed during the lofting process, and finally a set of record plans drawn after the ship was complete in 1855. None of these documents indicated any reused portions of the old frigate. They were normal records representing a new design. Moreover, plans were located at the National Archives for two ships, the *Sabine* and *Santee* (both 1854), which were alterations of existing hulls, and both of these plans depicted both the existing structure and the newly designed areas.[20]

The ordinary set of dual offset tables was especially revealing as it recorded, with .125-inch accuracy, the shape of all of the structural timbers of the sloop *Constellation*. Lenthall's half model was disassembled in the Gosport mould loft, indexed, traced, and then enlarged by a factor of thirty-six and drawn upon the mould loft floor. On the floor, some adjustments had to be made in the frame shapes during the smoothing or "fairing" process, and then each frame was plotted, measured, and recorded as measurements in tabular format to create the table of offsets. Had any portions of the old ship's frames or hull form been reused intact, those portions would have been delineated in the tables. They were not.[21]

17. *The* (Norfolk, Virginia) *Daily Southern Argus*, 23 July 1853. Compare with the contemporary "Plan of Part of Gosport Navy Yard showing Proposed change in Quay Wall Location," 25 June 1853 (Y&D No. 3987), Public Affairs Office, Norfolk Naval Shipyard, Portsmouth, VA.

18. Scientific analytical testing and documentary correlations regarding the model are described in *Fouled Anchors*, 62-64, 135-137.

19. Material has been previously cited, but is repeated for clarity. The May 1853 design plan for the new ship is in the John Lenthall Papers, Franklin Institute. Dimensions of the old frigate taken in January and February 1853 are 107-13-4A and B; the June 1853 plan for the new ship is 28-3-5; the offsets to the new sloop are 142-1-7, and the November 1855 record drawings are 128547 and 128584, all in E 126, NA, RG 19. See also, "Lines to U.S. Frigates *Constellation* and *Congress*," "Lines Taken from Builder's Half Model of Sloop-of-War *Constellation*," "Lines to U.S. Frigate *Macedonian*," and "Lines Comparison for Ships *Constellation* (I&II), *Pennsylvania*, and *Macedonian*," all by Colan Ratliff, 1990, Office of the Curator of Ship Models, David Taylor Model Basin, Carderock Headquarters, Bethesda, MD.

20. Compare the *Constellation* plan of June 1853, 28-3-5, with conversion drawings 79-10-7A and B, 138-13-12, 107-10-9M (*Sabine*, 1854), and 107-11-14E (*Santee*, 1854), all from E 126, NA, RG 19. Both ships were altered while still on the stocks: Naval History Division, *Dictionary of American Naval Fighting Ships* 6: 215, 325.

21. Sloop-of-war *Constellation* offsets, plan 142-1-7, E 126, NA, RG 19.

The offset dimensions for the new ship were then adjusted to allow a midships sag, or "hang," of 3.125 inches in the keel. After launching, variations of buoyancy along the hull would flex and flatten the hang, and the keel would then be horizontal and straight. With age, the keel was expected to hog, or droop at the bow and stem ends.[22]

Existence of the sloop-of-war *Constellation* offsets, demonstrating the 3.125-inch hang of the new keel, supported the drawings and the half model by showing that the sloop was structurally fresh. The offset tables for the sloop of 1853, the Gosport store records, and a newspaper account laid to rest the notion that the aged, perforated, and hogged keel of the frigate was somehow reverse-bent perhaps twenty-three inches (hog plus hang) and reused in the new ship.[23]

Ship's Plans — 1853 Docking Plans

Many ship's plans were found detailing both the *Constellation* of 1797 and of 1855. Except for three that had been previously tampered with, the plans were accurately labeled. Among the most important were the dry docking survey plans of 1853. One drawing on paper received from Norfolk in January 1853 accurately recorded in ink the shape of the very hogged keel of a vessel named *Constellation*. The *Constellation* was hauled out of the water on 23 February 1853, and this plan had probably been made using a common pantographic device while the ship was afloat. Information on the drawing would have helped the docking master place blocks under the ship's keel when she was brought up on to the North Slip.[24]

A related drawing on linen dated Norfolk, February 1853 was prepared ("taken from work") after the old ship was in the slip. Computer analysis showed that the hog and twist exhibited in this plan matched the January drawing. In the plan, nine hull cross sections were each located on the skin of the ship and measured by dimensions based from the exterior and the gunports. Measurements could have been gathered by cutting out the plank in selected areas or by measuring to the outside of the plank and subtracting the plank thickness. These sections and dimensions, forming a typical ship's docking plan, were useful in 1853 for building the shoring necessary to hold the ship permanently upright while it was broken up. Today the nine cross sections offer an excellent record of the actual shape of the old *Constellation* of 1797 on the eve of her demise in 1853.[25]

Computer Architectural Study

Kevin Lynaugh, a supervisory naval architect at the David Taylor Naval Research Center, volunteered to prepare a study of the interrelationship of Joshua Humphreys' design for the frigate *Constellation* drawn by William Doughty on 15 January 1795, the key 1853 two-part docking plans, and John Lenthall's 1853 sloop-of-war design. Using several sophisticated naval architectural software programs on a VAX II computer, Lynaugh entered the 1795 design, the 1853 design, and the 1853 docking plans digitally into his system. Unlike the manual drafting techniques used years before, which left substantial areas of hull surface specifically undefined and therefore subject to the draftsman's interpretation, Lynaugh's computer program was able to analyze at will and compare in extreme detail and accuracy the three hull shapes. The computer study indicated that essentially no portion of the hull of the 1797 ship matched the 1853 (or present-day) ship.[26]

Computer analysis indicated that the 1853 docking plans did, with considerable precision, match the 1795 Humphreys design. The study confirmed that the hull of the old *Constellation* was accurately recorded by the docking plans of January and February 1853, including any alterations of hull form that may have occurred

22. Keel hang is described in Griffiths, *Treatise on Marine and Naval Architecture*, 118; *CQ*, 44.

23. Computer analysis of drawings 107-13-4A and B (E 126, NA, RG 19) showed that the keel of the *Constellation* was hogged 19-20 inches in January 1853. This agrees favorably with the hog measured in the ship shortly before 1 May 1846: "Report of the examination of vessels on the stocks & in Ordinary, to ascertain their positions, stability, etc., in accordance with the Circular Order of 26th January 1833," 1 May 1846, Subject File AL, "Ships in Ordinary and Reserve, Gosport Navy Yard, 0-1859," NA, RG 45.

24. Material has been previously cited, but is repeated for clarity. The keel drawing is 107-13-4A, E 126, NA, RG 19. A pantographic device for measuring keels is "For taking the shape of ship before docking," by Charles S. Bruff, undated (ca. 1817-65),"Grice Collection," no. 87, Entry 405A, NA, RG 45.

25. The cross-section drawing is 107-13-4B, E 126, NA, RG 19. Both the keel and the section drawings have been reproduced in *CQ*, 27-28. For comparison, other docking plans are "U.S. Torpedo Boat *McKee*. Docking Plan. Taken from Work . . . ," 27 May 1898, 19-1-1 and "*Amphitrite*. Docking Plan. Taken from work . . . ," May 1902, 74-12-13, both in E 126, NA, RG 19.

26. Drawing, "Frigate Congress and Constellation of 36 Guns," 15 January 1795, U.S. Naval Academy Museum collections. Plans 128547, 128584, 142-1-7, 107-13-4A and B, E 126, NA, RG 19. Lynaugh's description of his methodology, hardware, software, and conclusions is in *Fouled Anchors*, 155-161.

between 1795 and February 1853. Therefore, the old *Constellation* was built essentially as designed by Humphreys and the hull form was not substantially or permanently altered before her demise.

The two docking plans were positively related and both showed the same degree of hog and twist. They clearly depicted an eighteenth-century frigate hull with considerably inward curving bulwarks, or "tumble-home"; a fact that disagreed with claims that the *Constellation*'s hull had been extensively modernized and the tumble-home removed during repairs prior to 1853.[27] Lynaugh's illustrated study, Appendix B of *Fouled Anchors*, found that the hull of the *Constellation* of today conformed fully to John Lenthall's 1853 design and not at all to Joshua Humphreys' 1795 design.

Naval Architectural Study

To supplement Lynaugh's advanced computer study, Colan Ratliff, a specialist in nineteenth-century ship design on the David Taylor staff, investigated design differences between ship types. He found that the midships cross-sections of nineteenth-century American frigates, sloops-of-war, and even ships-of-the-line, despite differences in size, were all relatively similar in shape. This similarity had contributed to the popular misconception that the midship cross-section of the present *Constellation* was similar to that of the old *Constellation* and, therefore, it was the same vessel.[28]

In a section of *Fouled Anchors* describing the construction of the frigate *Constellation* in Baltimore, 1795-97, Ratliff outlined the strict process of designing and building warships during that period. Mindful of the different skills and responsibilities of constructors, or builders, and designers, he found that the ship of 1797 had to be built as designed. The basic hull form could not have been altered locally in Baltimore without consulting the designer and without creating new plans and moulds which would have left a considerable "paper trail." Lack of a trail supported Lynaugh's finding that the frigate of early 1853 matched the Humphreys plan of January 1795 and reaffirmed the author's findings that documentation indicating that the ship had been secretly redesigned in 1795, reflecting a sloop-like hull, was likely forged.[29]

The *Constellation* of 1855 was not created in a vacuum. She was not an isolated design, but part of a progression of technology. Study of American naval architectural trends also traced the introduction of the speedy "clipper" hull form evidenced in the present vessel. The sloop's hull exhibits an advanced degree of sophistication in the computation of speed, stability, and displacement probably influenced by commercial clipper ships popular at the time of her design in 1853. The clipper hull form of the ship, as she left the Gosport yard in 1855, could not have safely supported the weight of the guns and extra gun deck present in the ship that was brought into the yard in 1853. While the topsides of a frigate might be cut down to a successful sloop-of-war, a sloop-of-war hull could not be made into a successful frigate. Based upon his study, Ratliff found that it was not likely that the hull form of the sloop could have been designed and built decades before 1853 and perhaps only lengthened at Gosport.[30]

27. Howard Chapelle and Leon Polland argued a lot about the rounded stern of the *Constellation*. It was not apparent how the stern configuration really mattered much in determining the age of the present ship. It suffices to say that the vessel commissioned in 1855 had a rounded stern. This was agreed upon by both Chapelle and Polland. *Fouled Anchors* also chose to discount a so-called "Mizzen Mast Survey" drawing alleged to represent *Constellation* in either 1829 or 1840, copies of which are in Polland Papers. Polland made much of this drawing in *CQ*, 95-96, but he admitted that the original could not be relocated at the National Archives. The purpose of a "Mizzen Mast Survey" could not be determined because the subject of the drawing was the ship's stern, not the mizzen mast. The mast drawing was hauntingly similar to a stern design drawing, undated, "U.S. Sloop Vandalia," 40-7-84, E 126, NA, RG 19. Peculiar, bearing many similarities to known forgeries, with no locatable original, the "mizzen mast survey" drawing was likely spurious. Polland believed the *Constellation*'s tumble-home was largely eliminated during repairs in 1812; *CQ*, 118-120. This supported his convoluted view that the 1853 docking plan, 107-13-4B, which showed a ship with an eighteenth-century-style tumble-home, was mistakenly derived in 1853 from an obsolete 1795 plan that the Navy failed to discard. However, Enoch Wines described the *Constellation* in 1829: "In the beauty of her hull, she is unequalled by any thing I have ever seen afloat. The easy swell and curvature of the sides, and the general harmony of the proportions are inimitable. The new frigates may present a more war-like appearance, but the monotony of their sides, rising as they do almost perpendicularly from the water to the hammock-nettings, is any thing but graceful or agreeable." E. C. Wines, *Two Years and a Half in the Navy*, vol. 1, (Philadelphia: Carey and Lea, 1832), 20. Although he was aware of the Wines book, Polland's view on the tumble-home was based on a series of documents now believed to be spurious. Polland's erroneous view is repeated in Dunne, "Inquiry into Chapelle's Naval Research," 43.

28. Evan Randolph, "USS *Constellation*," 249-251. Mr. Ratliff's full report, including a table of the forty-seven drawings consulted, is in *Fouled Anchors*, 131-153.

29. Griffiths, *Treatise on Marine and Naval Architecture;* Meade, *Treatise on Naval Architecture and Ship-Building;* Lachlen McKay, *The Practical Ship-Builder* (New York: Collins, Keese and Company, 1839), introduction and 8; Wilson, *Outline of Shipbuilding*.

30. The theory that the frigate *Constellation* bore a sloop-like hull since 1797 was proposed by Polland as early as 1959 and appears in all of his publications, culminating with *CQ* (1970). A variation on the same

The Question of Continuous Identity

In preparing *Fouled Anchors*, the team also studied how the new findings correlated with the views of those who believed the ship had a continuous identity since 1797. Those motivated to link the *Constellation* of today to a 1797 origin were faced with several physical discrepancies. One was that the frigate was 164 feet long and the sloop is 176 feet long. The second discrepancy was that the frigate had twenty-six-inch spaces between her frames and the ship today has thirty-two-inch frame spacing. Added to these incongruities was the need to identify a substantial amount of timber, usually the keel and first (or lower) futtocks, as being transferred from the frigate to the sloop during the 1853-55 work effort at Gosport.[31]

Generally, and much simplified, this is how the framing of wooden warships worked before 1811. The frame, or rib, was begun at the bottom with two companion floor timbers, which when incorporated into the completed frame, would eventually be bolted perpendicularly to the top of the keel. Many frames bolted close together formed the framing structure of the ship. The port and starboard arms of each frame were each composed of four or more curving timbers called "futtocks" which were attached head-to-foot to form the generally concave shape of each arm of the frame. For each arm, the foot of the first futtock was attached to the head of one floor timber. The foot of the second futtock was attached to the head of the companion floor timber and aligned cheek-to-cheek with the first futtock, but extending further upwards along the projected frame. The third futtock was installed foot-to-head with the first, and cheek-to-cheek with the second. The fourth futtock was installed foot-to-head with the second and cheek-to-cheek with the third. Other futtocks and top timbers were similarly added until the frame reached the projected rails of the ship. The other arm of the frame was composed the same way. The finished U-shaped frame therefore included two arms, each composed of parallel runs of futtocks with staggered joints, fixed together at the bottom with two floor timbers. The staggered joints and overlapping nature of the parallel futtock runs not only produced great structural strength, but allowed decayed floor timbers and futtocks to be sequentially, alternately, replaced from the inside of the ship without disturbing hull form or hull planking. If necessary, such repairs could be effected with the vessel afloat.[32]

To rationalize the dimensional incongruities and how the keel and lower futtocks found their way to the new ship, proponents of the 1797 origin had a single basic recourse — that the frigate brought into Gosport in February 1853 already embodied at least some of the sloop's hull form and frame spacing, that the keel was severed amidships and lengthened about twelve feet and, along with the existing lower futtocks and floors, formed the basic structure of the new sloop.[33]

Precognitive Designs

In 1961 a scholarly article appeared in the *Maryland Historical Magazine* which gave evidence showing that the *Constellation* was secretly redesigned in 1795 before she

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theory is proposed by Evan Randolph in "USS *Constellation*" (1979). Dunne selects parts of both Polland's and Randolph's sometimes conflicting views in "Inquiry into Chapelle's Naval Research" (1989).

31. *CQ*, 85, 116-119. It is interesting to note that National Maritime Initiative, *The Secretary of the Interior's Standards for Historic Vessel Preservation Projects with Guidelines for Applying the Standards* (Washington, D.C.: Department of the Interior, National Park Service, May, 1990) does not directly require a ship to have any original historic fabric in order to qualify as a historic vessel. Recent renditions of the *Constellation* story include Brother C. Edward, "The USS Constellation," *American History Illustrated* 9, no. 1 (April 1974): 12-25; Gilbert A. Crandall, "Yankee Race Horse," *Sea Classics* 5, no. 2 (March 1972): 48-58; Dunne, "Inquiry into Chapelle's Naval Research"; Sanford Sternlicht and Edwin M. Jameson, *USF* Constellation: *"Yankee Racehorse"* (Cockeysville, MD: Liberty Publishing Company, 1981); P. M. Callaghan, "Preserving America's Oldest Warship," *All Hands* (December 1980), 31-38; Edward L. Beach, *The United States Navy: 200 Years* (New York: Henry Holt and Company, 1986), 233, and Gilbert C. McArdle, *Modelling the USF* Constellation (Centerville, MD: Cornell Maritime Press, 1985). Most of these repeat either Chapelle's or Polland's perspectives on the ship. For different views, see Evan Randolph, "USS *Constellation*," or the masterful John Lyman, "The *Constellation* and Her Rebuilding," *Sea History* 3 (July 1975): 23-28.

32. Installed cheek to cheek, the second futtock overlapped the first and third, and the fourth futtock overlapped the third. The ability to replace major timbers afloat was important to a Navy which did not have a usable drydock until June 1833. See Paullin, *Paullin's History of Naval Administration*, 183. Without drydocks, American warships were repaired afloat, careened, or hove up on ways — an expensive, time-consuming, and hazardous job. See Charles Stewart to Paul Hamilton, 12 November 1812, published in the Washington, D.C. *National Intelligencer*, 19 December 1812; Thomas Tingey to Hamilton, 15 June 1812, "Letters Received by the Secretary of the Navy from Captains, 1805-51 and 1866-85," microcopy M-125, NA. Peter Goodwin, *The Construction and Fitting of the English Man-of-War, 1650-1850* (Annapolis: Naval Institute Press, 1987), 16-18; Meade, *Treatise on Naval Architecture*, 323-330.

33. Polland, *CQ*, 107-116; Dunne, "Inquiry into Chapelle's Naval Research," 43; Randolph, "USS *Constellation*," 235-255. Randolph does not directly account for the length or the frame space dimensional differences. The floors and first futtocks would constitute approximately the bottom twelve feet of the hull.

was built and that the resultant frigate had an advanced sloop-like hull form which was lengthened and carried over to the sloop-of-war in 1853. *Fouled Anchors* found that, probably unknown to the majority of the authors, most of the documentation supporting this article had been forged. In 1979 an article appeared in *The American Neptune* which offered an alternative theory that, as early as 1839, the *Constellation* was actually redesigned as a frigate with a sloop-like hull form, and that she was modified and cut down to a sloop in 1853. According to the article, about 34 percent of the sloop-of-war leaving Gosport in 1855 was made from the timbers of the old frigate. *Fouled Anchors* found that the theory was based upon several faulty assumptions, imprecise drafting, a misunderstanding of the Gosport store records and, unknown to the article's author, one proven forged document and one likely forged document. Another article appeared in *The American Neptune* in 1989 which, in part, provided a synthesis of selected points from the 1979 article and previous writings.[34]

Computer analysis of plans showed that the characteristic advanced sloop hull form would have been manifested in all the frames of the hull, beginning below the first futtocks and proceeding upwards. Acceptance of the complicated notion that an earlier precognitive hull form was carried over to the sloop from the frigate would require belief that the pre-1845 frigate hull form was much advanced, was never duplicated despite its superior qualities, was never mentioned in published or unpublished official records, could successfully support a frigate's guns and decks, and that appropriate design drawings were never made or have not survived.

Alterations During Repair

If the *Constellation* had been built as designed by Humphreys in 1795, then any subsequent redesign had to have been effected as an alteration performed during a repair period before 1845. The *Constellation* had been repaired in 1801-02, 1812, 1825, 1826, 1828-29, 1832, 1834-35, and 1838-40. Records of repairs performed on the frigate show that in 1825 some timbers were renewed and in 1828-29 twenty-four first, fifty-three second, and sixty-eight third futtocks were replaced. Between 1838 and 1840 one-third of her first, second, and third futtocks were replaced. In at least the latter two cases, only scattered futtocks, not frames, were replaced. All work done between 1801 and 1840 was listed as "repairs." She was placed in ordinary at Gosport in 1845 and was not withdrawn until 1853.[35]

Primary records are scant, but several published sources indicate that the *Constellation* was increased by "14 inches more beam at the main breadth" during repairs at the Washington Navy Yard in 1812. It was probable that her internal planking was stripped down, her first futtocks and floors were replaced, and her seven-inch thick main wales were doubled at this time with an additional layer of seven-inch thick plank in order to strengthen her before careening, to help straighten the ship's shell, and to supplement repairs made after she was accidentally grounded, laid over on her beam ends, and inundated in Delaware Bay on 10 August 1801. She was not hauled up on the ways in 1812 and the work was considered an "immediate repair." The work done at the Washington Navy Yard used timber at hand and was performed while afloat at the yard's wharf and by careening. Evidence did not indicate that in 1812 her hull form had been permanently altered.[36]

34. Charles Scarlett, Leon Polland, John Schneid, and Donald Stewart, "Yankee Race Horse: The USS *Constellation*," *Maryland Historical Magazine* 56, no. 1 (March 1961): 15-38; Randolph, "USS *Constellation*." Dunne, "Inquiry into Chapelle's Naval Research," 43 repeats the 1795 redesign theory.

35. Repair records have been cited previously, but are repeated here for clarity. "Constellation. Commenced Repairing at Gosport in the Month of Jany - Completed July 1829"; "At Gosport repaired in Feby - March 1832,"; "Commenced repairing at Gosport 16th Decem 1834 and was finished October 1835," all from "Returns of Repairs to Vessels, 1820-1849," Entry 5, NA, RG 45. Returns for repairs on U.S. Frigate *Constellation*, April, June, September, October, November, December 1825; "Returns . . . of Materials used in Repairing U.S. Ship Constellation . . . ," March, April, May, June, July, September, October-November, December 1828 and January - April, May, June, July, August 1829; "Constellation Repairing. Report of the State and Condition and of the Work done . . . ," 15-30 November, 1-15 December, 16-31 December 1838, 16-28 February, 1-15 March, 15-31 March, 1-15 April, 16-30 April, 16-31 May, 1-15 June, 16-30 June, 1-15 July, 16-31 July, 1-15 August, 10-31 August 1839, and 16-31 March, 1-15 April, 15-30 April, 1-15 May 1840, all in Subject File AR, "Repairs to U.S. Ships, 0-1859," NA, RG 45.

36. 51st Cong., 1st sess., Ex. Doc. No. 22, *Navy-Yard Washington. History from Organization, 1799 to Present Date*, by Henry B. Hibben, Chaplain, USN (Washington, D.C.: GPO, 1890), 44-46 presents a summary of work done at the yard, 1811-12, which must be read in its entirety to understand what perhaps was, and was not, done to *Constellation*. The booklet is not entirely reliable, but other more recent secondary works appear to repeat Hibben's information. See, for example, Taylor Peck, *Round-Shot to Rockets: A History of the Washington Navy Yard and U.S. Naval Gun Factory* (Annapolis: Naval Institute Press, 1949), 46, and Naval History Division, *Dictionary of American Naval Fighting Ships* 2: 170. Hibben does not say that her beam was increased overall, but only ". . . an extension of 14 inches more beam at the main breadth," supporting the probability that her wales were doubled. George F. Emmons, *The Navy of the United States*

Speculation about alterations to the frigate *Constellation*'s hull form seemed moot. As previously stated, the docking survey performed at Gosport in January and February 1853, at the time the frigate was hauled from the water, had been found by computer analysis to reflect the original moulded beam and design for the 1797 vessel accurately. The sloop hull form could not successfully carry the structure and armament of a frigate, nor was it likely the sloop's refined hull form could have been designed before she was placed in ordinary in 1845. Coupled with detailed records concerning most of the repair periods, it was apparent that the *Constellation*'s hull form had not been significantly altered between 1797 and 1853.

Keel Extension

The frigate built in 1797 was 164 feet long and the sloop that left Gosport, displayed today, is 176 feet long.

Leon Polland (1917-1987) was a marine draftsman and volunteer naval architect in charge of restoring the *Constellation* from 1959 until 1975. Though he had no training as a historian and little prior experience in wooden ship design, he was primarily concerned with defending the 1797 origin of the vessel and transforming the sloop into the resemblance of a frigate of the 1812-1815 period. Beginning in 1959, Polland concluded that in 1853 the frigate *Constellation* was cut down to the load waterline (about the twenty-two-foot waterline) and had twelve feet of new keel and hull added approximately amidships, retaining the bow and stern hull form of an earlier date. His conclusion was based partly upon his observations and partly upon a likely forged document (that he did not recognize as spurious), allegedly written by Franklin Roosevelt. Polland, and others more recently, have believed that the keel and the lower futtocks of the frigate are probably present in the sloop today. In later years, Polland revised his conclusion and believed that the ship was mostly torn down to the floors (about the three-foot waterline, well below the first futtocks) and had twelve feet added amidships.[37]

Some had claimed that, while retaining the keel and lower futtocks, length was added to the frigate *Constellation* by inserting a twelve-foot-long piece of keel and a number of new frames at the dead flat, the point at

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from the Commencement, 1776-1853 (Washington, D.C.: Gideon and Company, 1853), 92, confirms her beam was increased but does not indicate any increase in tonnage, 24. "Dimensions and Sizes of Materials for building a Frigate of 36 Guns," Josiah Fox Papers, Peabody Museum. Both Chapelle and Polland, amazingly, agreed that *Constellation*'s beam may have been increased by doubling her planks or wales. See *CQ*, 118 and Howard Chapelle, *The History of the American Sailing Navy* (New York: W. W. Norton, 1949), 234. James McKnight to ?, 17 April 1801; J. Thompson to Colonel Burrows, 28 April 1801, Subject File HG, "Groundings, Strandings, Founderings, and Sinkings," NA, RG 45. James Fenimore Cooper, *Naval History of the United States* (Philadelphia: Thomas Cowperthwait and Company, 1847), 301. By the Act of March 30, 1812, Congress appropriated $300,000 for the "immediate" repairing and equipping of the frigates *Chesapeake*, *Constellation*, and *Adams*. Tingey to Hamilton, 7 February, 20 April, 9 May, 15 and 20 June, 10 September, 29 December 1812, "Letters Received by the Secretary of the Navy from Captains, 1805-61 and 1866-85," microcopy M-125, NA; Hamilton to Tingey, 6 February, 3 April, 22 October 1812, "Letters Sent by the Secretary of the Navy to Commandants and Navy Agents, 1808-65," microcopy M-441, NA. In order to alter the hull form of the bottom twelve feet of *Constellation*, the floors, both the first and second futtocks, and the hull plank would have had to have been altered and replaced while the ship was hauled out of the water. Both Hibben and the Washington, D. C. *National Intelligencer* recorded ships hauled up on the ways and launched. Neither source indicates *Constellation* was hauled up. *Constellation* was repaired between April and October 1812, and the only building way large enough for her was occupied by a back-to-back series of other ships, including *Adams*, throughout that year. Washington, D. C. *National Intelligencer*, 9 April, 10 September, 31 October, 28 November, 1812; William Doughty, "Rough Plan of the Navy Yard Washington," 9 May 1815, Subject File, 1776-1910, PS-48, NA, RG 45. Dunne, "Inquiry into Chapelle's Naval Research," 43, erroneously states that the extreme and the moulded beam of the ship today is much the same as it was after 1812. The extreme beam today is the same as her extreme beam after 1812. Her moulded beam is not the same; see *Fouled Anchors*, 173, fig.18; docking plan 107-13-4B and offsets 142-1-7, E 126, NA, RG 19.

37. *Who's Who in the East*, twelfth ed. (Chicago: Marquis - Who's Who, 1972), 888. Polland to Arnold Korab, 22 January 1965, Polland Papers; *CQ*, 107, 116. Prior to publishing *CQ* with Chapelle in 1970, Polland had written *Frigate E - Constellation*, mimeographed in 1962, and *The Frigate "Constellation": An Outline of the Present Restoration*, printed in limited quantities in 1966 and again in 1968. The relatively easier to find *CQ* is referenced in this article. Many of Polland's views have become part of the oral tradition used to define the present ship. Polland to "To Whom it May Concern" on USS *Constitution*, 18 October 1959 and Polland draft, "A *Constellation* Treatise," March 1969, both in Polland Papers. The drastic reduction of the amount believed to be original material is in Polland to Edwin Auerbach, Jr., 19 December 1968 and again revealed in handwritten added pages 13-14 to speech entitled "Restoration of the Frigate *Constellation*" prepared by Polland for presentation to the Baltimore Chapter of the Nautical Research Guild, 29 April 1968, both in Polland Papers. Polland quietly admitted his change of opinion in *CQ*, 116, with the statement that in 1853 the ship was "razeed" and ". . . in many areas cut down to the floorboards." Dunne, "Inquiry into Chapelle's Naval Research," 43-44 repeats the keel extension theory. Attesting to the likely condition of the *Constellation*'s timbers, it is interesting to note that in 1834, *Constellation*'s sister ship, *Congress*, was judged unsuitable for repair and subject to be condemned. Only twenty-one of sixty-two floor timbers and only twenty-six of 142 first futtocks were found to be sound. Samuel Humphreys to ?, 4 April 1834, Subject File AL, "Ships in Ordinary or Reserve, Gosport Yard, 0-1859," NA, RG 45. Repair and in-ordinary records offer ample evidence that, while it was hardy, live oak was far from eternal.

which the ship was the widest.[38] Had frames been added anywhere in the structure of the ship, they would have had to have been carefully faired into the ship's general shape, and a considerable number of existing adjoining frames would also have required refairing. A complicated and critical process, it would not have been considered a casually planned, unrecorded, carpenter's job. It is likely that such a project would necessarily have required new displacement and stability computations, measuring, redrawing, and relofting nearly the entire ship. Records did not indicate that any such work was ever done.

The concept of adding length to a ship by cutting amidships near the dead flat seemed to be a modern notion applied primarily to "jumboized" steel ships which could be easily cut and welded. It was found that adding keel pieces inserted amidships, connected by long wood joints called "scarphs," was an avoided practice in American naval ships. Cutting amidships would weaken the vessel longitudinally and would increase the number of scarph joints in the middle of the keel, an area of critical structural stress. Evidence was found that on most, perhaps all, of the few occasions it was really done, American warships had length added by redesigning and rebuilding bows and sterns. A midship extension provided only additional deck and hold length while disturbing the stability of the ship. However, a successfully redesigned bow or stern could accomplish the same dimensional increase plus offer an opportunity to modernize and improve the hydrodynamic qualities and stability of the vessel while preserving the integrity of the midship keel structure.[39]

A possible example of a wooden American naval vessel which had been split amidships and lengthened was the frigate *Adams*. In mid-June 1812, the *Adams* (1799) was hauled from the water and repaired at the Washington Navy Yard. Some publications indicated that, in December, she left the shipyard fifteen feet longer and that the lengthening was accomplished by splitting the hull at the dead flat and extending the keel. One account suggested that the results were less than successful. No drawings or archival documents were located which confirmed that the *Adams* was split asunder, or which described the process, and there was no evidence found that this technique was employed on other ships.[40]

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38. *CQ*, 111-112. Dunne, "Inquiry into Chapelle's Naval Research," 43-44 and 53, endnote 30. This article also states on page 41 that in 1820-23 the *Erie* (1813) "Typically, . . . was stripped down to its live oak structural members, a keel scarph released, presumably at the dead flat, . . ." and was lengthened four feet. Then, in the 1840s, she was shortened four feet. Regarding the 1840s work, the two sources cited in the article disagree with each other and one of the sources contradicts the article. Neither source cited postulates *Erie* was split and lengthened at the dead flat in 1820-23 or 1840-43. George F. Emmons, *Navy of the United States*, 10, reports that the original *Erie* was broken up in 1841 and that a new store ship named *Erie* was launched in 1842 (26-27). See Merrit A. Edson, Jr., "Ramblings in American Naval History," a draft article commencing in *Seaways* 3, no. 2 (March/April 1992): 17.

39. On the reluctance to scarph keels in the midship area, see "Dimensions and Sizes of Materials for building a Frigate of 36 Guns," Josiah Fox Papers, Peabody Museum. Some evidence indicates that ships which were "rebuilt" and lengthened did not normally have their keels augmented, but perhaps received new keels: section 2 of the Act of 30 March 1812 and advertisement for timbers wanted at navy yards, Washington, D. C. *National Intelligencer*, 9 April, 28 and 30 May 1812. In addressing the *Constellation* question, undue attachment to the usage and perceived definitions of individual words was avoided. For instance, it was found that contemporaries applied the words "razee" and "rebuilt" in a variety of ways. For bow and stern alterations and lengthening, see drawings 79-10-7A and B, 138-13-12, 107-10-9M *(Sabine*, 1854), and 107-11-14E *(Santee*, 1854), all from E 126, NA, RG 19. Dunne, "Inquiry into Chapelle's Naval Research," 53, endnote 30, indicates that the originally 127-foot sailing sloop-of-war *Vandalia* (1825) had been lengthened eighty-nine feet by 1872. No source is given. Naval History Division, *Dictionary of American Naval Fighting Ships* 7: 461 and K. Jack Bauer, *Ships of the Navy, 1775-1969* vol. 1, (Troy, NY: Rensselaer Polytechnic Institute, 1969), 71 contradict the statement. The 1825 sailing sloop was broken up at Portsmouth, NH and a new 216-foot steam sloop was designed and then built at Boston in 1872-74. Referring to *Vandalia* (1872-74) and her sisters, Donald Canney quips, "Any resemblance between these vessels and their predecessors of the same names is entirely accidental." Donald L. Canney, *Old Steam Navy* 1: 150-154. Several design models in the Navy collection give ample evidence of the very great difference between the two *Vandalias*.

40. In June 1812 it was reported that *Adams* was in need of hauling up on the ways. But due to the extreme state of her decay, the Commandant of the Washington Navy Yard was afraid she might collapse while being hove up. The Secretary of the Navy ordered her hauled up, observing that should she collapse, she had not been worthy of repair in the first place: Tingey to Hamilton, 15 June 1812, "Letters Received by the Secretary of the Navy from Captains, 1805-61 and 1866-85," microcopy M-125, NA, and Hamilton to Tingey, 16 June 1812, "Letters Sent by the Secretary of the Navy to Commandants and Navy Agents, 1808-65," microcopy M-441, NA. Theodore Roosevelt, *The Naval War of 1812* (New York: G. Putnam's Sons, 1882), 336 mentions an oral tradition that *Adams* sailed peculiarly after the 1812 modifications. Emmons, *Navy of the United States*, 9. 51st Cong., 1st sess., Ex. Doc. No. 22, *Navy-Yard Washington*, (1890), 46 confirms that *Adams* was hauled out, but adds that she was split and lengthened amidships. It is apparent that, because of extreme decay, *Adams* was not strong enough to simply chop and lengthen. The Washington, D. C. *National Intelligencer*, 31 October and 29 December 1812 confirms that she was split and lengthened but adds that her beam was increased, probably during disassembly, and reassembly in the rebuilding process. Both sources confirm that *Constellation* was *not* treated similarly at the time. Dunne, "Inquiry into Chapelle's Naval Research," 53, endnote 30 states that, at the Washington Navy Yard in 1813 (1812), the frigate *Adams* became the first U.S. Navy ship to be split at the dead flat and lengthened. The source for this statement is not revealed.

The twenty-six-inch versus thirty-two-inch frame space discrepancy was difficult to explain if the present ship has had a continuous identity since 1797. Plans to the frigate of 1797 indicated that she was built with twenty-six-inch frame spacing. The ship of today has thirty-two-inch frame spacing, which agrees with Lenthall's plans of 1853. Altering frame spacing would have been difficult, perhaps impossible, to do on a large warship, and there was no evidence that the keel today had been rebored in the past for new bolt holes in order to shuffle floors and frames.[41]

Computer analysis indicated that the floors and lower futtocks of the sloop-of-war did not resemble those in the frigate. Store records, a newspaper account, and several ships plans confirmed that the sloop was built using nine unused keel timbers taken from the Gosport stockpile in 1853.

New Frames from Old

Although it was highly unlikely the old, decayed, and obsolete lower timbers of the *Constellation* would have been considered for reuse, for the sake of thoroughness *Fouled Anchors* examined the possibility that at least some of the frames, including the first futtocks, of the old frigate might have been refashioned into the frames of the new sloop. David Taylor computers were applied to designing a sample midship frame for the sloop using a midship frame shape from the old frigate. The midship frames were chosen because in this area the cross-sectional shapes of both ships were the most similar. Frames or futtocks from other areas of the ships would be more radically dissimilar. Although the midship sections may have appeared similar to the eye, the Navy's design computers told a different story. The computers showed that, in the best circumstances, a midship frame for the sloop of 1855 derived from a midship frame of the frigate of 1797 was theoretically possible, but it would be composed of many oddly shaped and abnormally thin futtocks which would offer little strength and require many fastenings to assemble.[42] It was unrealistic.

Findings About Continuous Identity

Given the documented ample size of the Gosport timber stockpile, the generosity of the Gradual Increase Act, two clear newspaper accounts, advanced computer analyses, study of the Navy's wooden shipbuilding and design process, the existence of the builder's design model and matching fresh design plans, a set of new offsets with keel hang, repair records of the *Constellation* and contemporary ships, a complete record of all the materials dispensed to the sloop's constructors, and a record of the frigate's hull in February 1853, *Fouled Anchors* concluded that no original hull form or significant structural timbers were transferred from the twisted and hogged fifty-six-year-old frigate to the new sloop-of-war. The *Constellation* displayed today has not had a continuous identity since 1797.

The Ship as Artifact

Since the earliest publications defending the 1797 origins of the *Constellation*, some have held that the ship itself held the ultimate evidence of lineage. Consideration of the ship as an artifact would have begun with thorough architectural documentation. But the ship's structure apparently had never been systematically and scientifically recorded and identified. Personal observations, interpretations, and opinions about features and characteristics which may or may not be visible have little validity without a complete, accurate, and open architectural record of the artifact.[43]

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41. Drawing, "Frigate Congress and Constellation of 36 Guns," 15 January 1795, U.S. Naval Academy collections. Leon Polland admitted, "It would be quite impossible to alter the spacing of the frames without completely destroying the identity of the ship *(Constellation)*." *CQ*, 114, 112. By 1970, several experts could not account for how a ship with 32-inch frame spacing could be extended exactly twelve feet and still retain consistent frame spacing. Lyman, "*Constellation* and Her Rebuilding," 23-28; Dick Bloom to Polland, 29 December 1970, Polland Papers; Edson, "Ramblings on American Naval History."

42. The computer reconstruction is illustrated in figure 26, *Fouled Anchors*, 181. Dunne, "Inquiry into Chapelle's Naval Research," 42 states that the original hull form, apparently from the load waterline to the keel, of the frigate *John Adams* (1799) was still present in the sloop *John Adams* in 1867. The sources for the statement are an undescribed Navy drawing #85740 in National Archives Record Group 19 and Dunne, "The South Carolina Frigate: A History of the U.S. Ship *John Adams*," *The American Neptune* 47, no. 1 (Winter 1987): 22-32 also citing drawing #85740, but in Record Group 45. Navy researchers were not able to review the drawing because National Archives staff were unable to locate it or an index entry for it in the plan files. The statements that the hull form and main timbers of the sloop *John Adams* dated from 1799 seem contrary to a number of documents. Clearly, a second ship was designed and built. "Returns of Repairs to Vessels, 1820-1849," Entry 5, NA, RG 45 states: "John Adams. This ship was entirely Rebuilt at Gosport and went to Sea 7th May 1831 . . . ," 239. Reuse of old hull timbers is not specified in the following: "General directions for rebuilding Sloop of War John Adams, February 1829 - Humphreys," 142-8-19; untitled working sheer and body plan, *John Adams*, 40-7-8K; untitled sheer plan showing displacement computations for sloop *John Adams*, 40-7-8G; "Draft of a Sloop of War by Samuel Humphreys - 1825. Boston, Vincennes, Fairfield, Concord, Vandalia, St. Louis, New John Adams," 108-10-11; "Draft of a Sloop of War by Samuel Humphreys - 1825. Boston, Vincennes, Fairfield, Concord, Vandalia, St. Louis, John Adams as Rebuilt in 1830," 40-12-7, all from E 126, NA, RG 19.

43. See, for example: Richard K. Anderson, Jr., *Guidelines for Recording Historic Ships*, Historic American Buildings Survey, Historic American Engineering Record, (Washington, D. C.: U.S. Department of the Interior, National Park Service, September 1988).

Adz Marks and Saw Marks

During a drydock period in 1959-60, Leon Polland noticed that the timbers of the *Constellation* appeared to show signs of having been sawed and chipped with an adz. He concluded that the timbers bearing saw marks were part of the 1853 work and the adzed timbers reflected original 1797 structure. Privately, however, he noticed that adz marks also seemed to appear in areas of the ship he was sure were rebuilt at Gosport in 1853.[44] Polland's extensive collection of photographs taken of the timbers when the planking was removed in drydock were studied. It appeared that the textures were manifested almost randomly throughout the structure.

The research team's visit to the ship, including a look at the midships bilge area, on 13 June 1990 confirmed a seemingly haphazard display of cutting marks and wood textures. It was believed that the primary explanation was that much of the *Constellation*'s 1853 framing was built up of pieces of timber already shaped, or moulded, for other types of ships. Some of the material had been hewn with broadax or adz, or sawn before it was stored at Gosport, perhaps as early as thirty-five years before. Doubtless, upon withdrawal from yard storage in 1853, some pieces were judged to fit the moulds for the new ship closely and were left largely as found. Other pieces needed to be down-sized or reshaped and were rehewn, resawn, or dubbed by adz again in 1853.[45]

Whether the timbers dated from 1795, or any subsequent alteration, embracing Polland's general theory required acceptance that something made with an adz was always older than something sawn. To be sure, hewing was not superseded by sawing at any time. Adzes are still used in woodworking and were employed throughout the nineteenth century as a very precise way of shaping wood on the job. The use of broadaxes, adzes, rotating saws, and reciprocating saws would be expected on a vessel built in 1853. Each cutting tool was employed selectively, depending on the type and precision of the required cut and the amount of material to be cleaved. It was clear that no reasonable conclusions about age could be drawn from the cut textures of the aged and corroded timbers seen.[46]

Dated Fastenings

In the 1960s several isolated examples of dated bolts were discovered in the keel and frames of the *Constellation*. It was noted that the employee believed to have introduced forged documents into archives was always present and sometimes assisting when these fastenings were discovered. Several of the alleged dated bolts were examined and it was found that the markings were stamped in and resembled impressions made by commonly available modern metal-stamping dies. Dated fastenings had yet to be found on *Constitution* (1797) or *Charles W. Morgan* (1841). The few marked fastenings were probably stamped in advance by the alleged forger, who was on hand to make sure the innocent workman "discovered" the right ones.[47]

Dendrochronology

This archaeological tool was discussed in *Fouled Anchors* but perhaps deserves amplification. Dendrochronology is a technique used by archaeologists which employs tree-ring growth measurements to determine the last year of growth of some types of wood. The technique, under good conditions, can determine the date of harvest as close as a single year or less. At present, it appears that dendrochronology is the only scientific dating technique which might discern the fifty-eight-year difference separating the two *Constellations*. Until recently, the technique had been applied within the United States only to a few types of trees growing in the Southwest and Alaska. Recently, data bases have been developed for a few types of East Coast trees. A data base for white oak has been developed, but none yet exists for live oak.[48]

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44. *CQ*, 117-118. Construction Notes, 4 and 12 December 1959, 7 and 19 May, 9 August 1960, Polland Papers.

45. Comparing ships plans, it was apparent that the nearly repetitive midship frames probably required the least amount of hewing to conform to the moulds. This probably has led to the misconception that the frames at the midship area are newer than others because they bear fewer adz marks. The original mixed cutting textures of the 1853 frames have been further confused by the repairs performed between 1855 and 1955.

46. On conclusions drawn misleadingly from timber and cutting marks, see Joseph Hill Torras, Jr. to Polland, 10 February 1975, Polland Papers; untitled speech delivered by W. M. P. Dunne at the Ninth Annual Symposium on Southern New England Maritime History, Mystic Seaport Museum, 10-11 November 1989, courtesy of the speaker, and Dunne, "Inquiry into Chapelle's Naval Research," 44.

47. Statement of Thomas Taormina, 18 June 1964; Construction Notes 19 May 1960, 18 June 1964, Wallace Emerick to "To Whom it May Concern," 19 May 1960, "U.S.F. 'Constellation' - Star - bd - Hull, timber, hull & Spike Research - 1960" 16 May 1961 (1960), frames 21 and S-21, all in Polland Papers; telephone conversations, author to Anne Grimes, USS *Constitution* Museum, to Donald Turner, USS *Constitution*, 1 February 1990; to Tyrone Martin, February 1990; conversation in Philadelphia, PA with Benjamin Fuller, Mystic Seaport Museum, 18 April 1990. For commonly available character die stamps, see, for example, McMaster-Carr Supply Company, *Catalog 84* (Chicago: McMaster-Carr, 1978), 186-187. Bolts were made substantially from a mixture of scrap copper and would therefore be inappropriate for metallurgical study.

48. Joseph W. Michaels, *Dating Methods in Archaeology* (New York: Seminar Press, 1973); Herman J. Heikkenen, "Tree-Ring Patterns:

There was little doubt that the planking and beams on the present vessel had been replaced since 1795 or 1853, and it appeared that the ship's keel offered the most reliable subject. Dendrochronological study of the present *Constellation*'s white oak keel would require that some, if not every one, of the examined timbers have evidence of the last tree-rings to grow before harvest. Whether these rings are present is not known, but it is unlikely because keel timbers were usually selected from heart wood near the center of the tree.[49] The study would also have to consider that the keel, stem, and sternpost present today are documented to have been made from nine pieces of stockpiled timber originally intended for several other types of ships. Mismatched pieces could handicap the accuracy of testing by most likely demonstrating unidentifiable geographical growth regions and various harvest dates, perhaps ranging between 1816 and 1853.

A consistent harvest date of 1795 for all keel pieces, except perhaps one or two, would offer good proof of the continuous existence of much of the *Constellation*'s keel. However, such a study, if feasible at all, would more likely show variations and might seem less conclusive than expected. It would not be, as one authority believed, the "silver bullet." The decision to apply dendrochronology to the *Constellation* today rests with those who display her. Regardless of the outcome, the study would add to the body of knowledge surrounding the ship. Maritime scholars should welcome a published dendrochronological study performed by experts competent in examining historic structures, offering access to samples and computations, and supported by a guarantee of statistical accuracy.[50]

A Key Year Technique for Crossdating," *Journal of Forestry* 82, no. 5 (May 1984): 302-305; Herman J. Heikkenen and Mark R. Edwards, "The Key-year Dendrochronology Technique and its Application in Dating Historic Structures in Maryland," Association for Preservation Technology *Bulletin* 15, no. 3 (1983): 3-25.

49. Meade, *Treatise on Naval Architecture*, 289-293.

50. The somewhat pessimistic view of the potential success of dendrochronology in this case is based on a telephone conversation between the author and Dr. Herman Heikkenen, 16 January 1992.

Conclusions

Using multiple, mutually confirming sources of documentary, artifactual, and architectural evidence, the authors of *Fouled Anchors* found that neither the hull form nor any significant quantity of timber was transposed from the frigate that entered the Gosport Navy Yard in 1853 to the sloop-of-war that left the yard in 1855. The story of the two *Constellation*s, each as different as an apple and an orange, was deceptively simple. However, the needful drive to prove the 1797 origin of the present ship, regardless of substantial evidence to the contrary, had caused some supporters to construct complicated theories based on poorly founded assumptions to explain away the obvious.

The *Constellation* of today is an important artifact that records a significant example of mid-nineteenth-century American warship design. It deserves to continue to be preserved and displayed. After sifting out presumptions and forgeries, a wealth of remaining evidence indicates that the present *Constellation* was built using essentially new materials to a totally new design at the Gosport Navy Yard near Norfolk, Virginia in 1853-55.

Dana Wegner received his bachelor's degree at Elmhurst College in Elmhurst, Illinois and his masters in the field of museum curatorship at the State University of New York College at Oneonta/Cooperstown, and studied under Robert G. Albion at the Munson Institute of American Maritime Studies. Mr. Wegner has worked as a historical researcher in the Navy's Division of Naval Reactors and as an exhibits archivist at the National Archives. He is the author of Fouled Anchors: The *Constellation* Question Answered *(1991), and has contributed to numerous volumes on American naval history. He began his study of historic half-hull technical models and ship's plans as an intern at the Smithsonian Institution in 1968 and has been the Department of the Navy's Curator of Ship Models at the David Taylor Model Basin in Bethesda, Maryland, since 1980.*

Fouled Anchors? Foul Blow

EVAN RANDOLPH

In his treatise *Fouled Anchors: The* Constellation *Question Answered,* Dana Wegner challenges the true heritage of the USS *Constellation.* Using verbosity and computer glitz, he has tried to deprive the old ship of her true identity and dignity by suggesting that *Constellation* is an imposter.

Wegner has done an admirable job of identifying as forgeries several documents used by some researchers to record *Constellation*'s history. However, he either overlooks or incorrectly interprets various primary source documents in his quest to determine the ship's true age.

His research tries to make the erroneous claim that *Constellation,* as was constructed in 1797, existed in that form until 1853. He states that then a totally different *Constellation,* without any continuity between the two, was built in 1853/54. This assertion proves false when assessed under the light of all the primary evidence that is available from the 1850 era.

The 1797 *Constellation* was rebuilt many times. Her shape had been modified over the years. The 1853/54 major rebuilding was specifically done to retain and convert the old ship, due to her ancient renown in history. Therefore, *Constellation* today is an evolution of the 1797 ship. The fact that she survived, albeit in altered form, allows *Constellation* to claim the title of the Navy's oldest sailing warship afloat.

THE SUPPORTING EVIDENCE

John Lenthall, Chief Naval Constructor in Washington, had specific plans for *Constellation* as outlined in his 18 December 1851 letter to his superior, Commodore Skinner, Chief of the Bureau of Construction. The letter follows in its entirety:

Washington Dec 18-51

Sir

Your instructions require me to give an opinion upon the subject of converting the small class Frigate "Constellation" into a frigate of 54 guns having a length of 240 feet and a breadth of 55 feet —

The length of the "Constellation" is 163 feet, the breadth 41 feet with a depth of 30 feet.

The proposed frigate is to have a length of 240 feet, a breadth of 55 feet, and a depth, if in the same proportion, will be 41 feet —

The proposition thus is by increasing the dimensions to convert a ship of 1224 tons into a ship of 3300 tons —

The length of the vessel may be easily increased, though at the expense of strength; and the depth may be increased, diminishing however the stability; but there is no ready way in which a ship, of the present shape, of 41 feet beam can be increased to a breadth of 55 feet.

In the year 1829 the "Constellation" was repaired at an expense (excluding the armament) of 181,000 dollars, of which the rebuilding of the hull was 114,000 dollars; in 1832 the repairs on the hull were 3037 dollars, and in 1840 the repairs on the hull alone were 75,834 dollars — Since that period very little has been done to the ship and it may be safely assumed that she will now require to be entirely rebuilt at a cost but little, if any, less than that of a new ship —

If the whole of the materials that enter into the construction of the "Constellation" could be used, it would only amount to about 2/5 of that required for a new ship of the dimensions above given, and it is certain that little or none of it can be used for any such purpose, though probably the lower part of the frame may be sound.

It thus appears to me that the old "Constellation" should be abandoned, if it is proposed to build a vessel of 3300 tons to take her place —

If the ancient renown of this ship makes it desirable to retain her (for in point of economy there will be a loss) the plan heretofore under consideration of the Bureau seems well adapted to carry it out — This ship has been found deficient in stability (though built from the same lines as "Constitution") but in other respects she is well formed.

With a light spar deck and a heavy armament on the gun deck, from an inferior ship of a higher class, she will be one of the first of a lower class and always

be a formidable vessel. It may be worthy of consideration whether she may not be made into an open deck Corvette armed after the manner of steamers and fitted with a propeller and steam power to give a moderate speed: to this method of propulsion her form is well adapted and will be allowed by the reduction of the hull and equipment.

That this ship, though built upon the plan of "Constitution" should have been found inferior to that vessel, is susceptible to an easy explanation; and it may not be out of place here to remark that it is no new discovery in naval architecture, that large dimensions with a small displacement give brilliant quality to ships — though speed is highly desirable, it is not the only quality required in ships of war —

Very respectfully
John Lenthall

to

Commodore Skinner
Chief of Bureau Construction[1]

In his letter, Lenthall is discussing the practicality of a *conversion* of *Constellation*. He says that such a conversion can be accomplished only if done in an appropriate manner. He points out that the hull has been rebuilt many times and that he anticipates that now she will probably have to be entirely rebuilt, although the lower frame may be sound. The best case in his conversion plan is that 40 percent of the new huge frigate would contain materials from the old *Constellation*. He recommends that *Constellation* should be abandoned *if* she cannot be converted in an appropriate manner, and that if the "ancient renown" of *Constellation* makes it desirable to retain her, she should be converted to a sloop-of-war. Finally, he suggests the alternate proposal of converting *Constellation* into a steam-powered propeller craft.

The next day Commodore Skinner, Chief of the Bureau of Construction, wrote to his superior William A. Graham, Secretary of the Navy, saying in part:

Navy Department
Bureau of Construction
Dec 19, 1851

Sir,

The accompanying letter from Capt. Stringham proposing certain alterations to the U. States Frigate "Constellation" was referred to Constructor Lenthall for consideration. I herewith submit his report, which at once shows the inadvisability of the proposition. A ship of the dimensions submitted would be thirty feet longer than the "Pennsylvania" of four decks, and tons three hundred and ninety more than that vessel. If the "Constellation" is worthy of repair, the best disposition would be to convert her into a Sloop of War with a battery of heavy guns.

You will perceive from the report of Mr. Lenthall, the enormous sums which have been already lavished on that ship, not withstanding she was always an inefficient second class Frigate. Should the government desire to introduce a class of huge Frigates into the service, sound policy requires that they should be modeled, framed and built for the purpose.[2]

Thus, Skinner also recommended that if *Constellation* was worthy of repair, she should be converted into a sloop-of-war. He further advised Secretary Graham to build new large frigates from scratch, not to try to convert *Constellation* for that purpose.

A contemporary newspaper account also supports the conversion theory. The *Portsmouth Transcript* described it this way:

25 Feb 1853

The *Constellation* — this time-honored ship was hauled up on one of the slips at the Navy Yard. She is to be razeed and converted into a first class Sloop-of-War, and will be otherwise throughout and extensively repaired. The *Constellation* is a second-class frigate of 36 guns, and was launched in Baltimore in the year 1797, more than a half century ago. Her timbers are very rotten, and for the most part will have to be replaced with new; and her model will, no doubt, require some alteration to conform somewhat with ships of a more recent construction.

It was at one time proposed to apply steam to the *Constellation* as an auxiliary, using a submerged propeller, but objections were made to any change in the character of the ship, on account of her connection with the history of the country. The project was abandoned, and the vessel was allowed to retain her position in that portion of the National vessels at this station, technically known as "Rotten Row" — where she might have remained had not the present exigencies of the service compelled the Department to have her repaired.[3]

1. John Lenthall, Constructor, to Commodore Skinner, Chief of Bureau of Construction, 18 December 1851, Bureau Letters, July - December 1851, Naval Records Collection, Record Group 45, National Archives, Washington, D. C. (hereafter NA, RG 45).

2. Commodore Skinner, Chief of Bureau of Construction, to the Honorable William A. Graham, Secretary of the Navy, 19 December 1851, Letters to the Secretary of the Navy, Records of the Bureau of Ships, Record Group 19, National Archives (hereafter NA, RG 19).

3. *Portsmouth Transcript*, 25 February 1853.

This source also shows that the *Constellation* was to be converted to a sloop-of-war. This is a repair. The author points out that her timbers are rotten and that many will have to be replaced. He also states that her model will be *altered* to conform with more modern ships (sloops-of-war). He claims that the steam-powered conversion was scrapped because the character of *Constellation* was not to be changed due to her famous place in history. *Constellation* was *not* abandoned on "Rotten Row." She was repaired instead.

Articles from the *Daily Southern Argus* during 1853 and 1854 provide further proof:

> *The Old Constellation* — This old time-honored and time-worn frigate of historical memory has been literally torn to pieces preparatory to the building of the *new* (emphasis added) Constellation. Hundreds of men are employed directly or indirectly, upon her massive keel, which has been placed in one of the ship houses.[4]

This article describes a transition of the old into the new. The old has been dismantled first. The "massive keel" being referred to is from the old *Constellation*, the subject of the article. Later the same newspaper reported:

> *The Sloop-of-War Constellation* — This vessel now ready for launching at the Gosport Navy Yard, presents to the eye a structure of strength and capacity scarcely equalled in our Navy, in any vessel below a first-class frigate . . . .
>
> Her fastenings are of the strongest kind, her timbers unexceptionable. She takes her name from the old frigate Constellation, and has some of her timbers.[5]

4. The *Daily Southern Argus*, 11 July 1853.
5. Ibid., 2 August 1854.

The new sloop-of-war *Constellation* contains timbers from the old frigate *Constellation* — in accordance with Lenthall's retention/conversion letter of 18 December 1851. This proves the actual integration of the old ship into the new.

The Heritage Issue

More recent press coverage has addressed Wegner's challenge to the vessel's building date. In an article covering Wegner's research entitled "Authenticity of Frigate Challenged," the *Philadelphia Inquirer* reported: "A historian thinks the *Constellation* on view in Baltimore, billed as the Navy's oldest sailing warship afloat, was built in 1853, not 1797."[6] Likewise, a *Washington Post* report, headlined "Md's Noble Frigate May Be Imposter" stated that:

> . . . now a maritime historian with the Navy has blasted a hole in the majestic frigate's reputation with his claim that it actually was built in 1853. He argues that during the late 1950s someone forged documents, faked memos from Franklin Delano Roosevelt, and stamped "1797" onto some of the ships bolts to hide its true age.[7]

In *Fouled Anchors,* Wegner states that during the rebuild, "the frigate *Constellation* clearly was no more," and describes the frigate as being "on the eve of her demise in 1853." He argues further that there is "no evidence that any material was transferred directly from old ship to new."[8] However, Wegner's position that the

6. *The Philadelphia Inquirer,* 22 September 1991.
7. *The Washington Post,* 18 September 1991.
8. Dana M. Wegner, *Fouled Anchors: The* Constellation *Question Answered* (Bethesda, MD: The David Taylor Research Center Technical and Administrative Services Department Research and Development Report DTRC-91/CT06, 1991), 4, 5, 78.

Figure 1: Note the bow rabbet and extension of false keel, far right, in this keel plan of the frigate *Constellation* (#107-13-4A, NA,

old was destroyed and was not integrated into the new does not square with the facts just presented.

Wegner should answer the basic question: Why did the Navy go to the trouble and expense of first taking apart the old *Constellation* if there were no plans to integrate the old into the new? Another question for Wegner is this: If Lenthall planned to retain the famous old *Constellation* by converting her to a sloop-of-war — and this retention meant dismantling the old ship first and converting her into the new sloop-of-war — why deny that this retention/conversion activity ever took place?

Clearly, the old ship was not abandoned. And the new contains timbers from the old.

The Hull Plan Issue

The National Archives holds a plan of the keel of the frigate *Constellation* (plan 107-13-4A, NA, RG 19; see below). The plan is marked in the corner in pencil (in different handwriting) "received January 1853 in Norfolk." In *Fouled Anchors*, Wegner says this about the plan:

> Most important were the drydocking survey plans of 1853. One drawing on paper dated Norfolk, January 1853 accurately recorded in ink the shape of the very hogged keel of a ship named *Constellation*. The old *Constellation* was hauled out of the water on February 23, 1853 and this plan had probably been made using a common pantographic device while the ship was afloat.
>
> . . . the device believed to measure the shape of the keel before the ship was hauled out is shown in figure 25. The process consisted of two barges with a man stationed at each barge to pull or release a measuring line as a pantograph-type mechanism under the keel adjusted to the shape of the keel. At the same time, the pantograph pulled or slacked on the measuring line and readings were taken. The barges were moved from the bow to the stern and measurements were taken at the respective frames which would rest on keel blocks. Recording the numbers had to have taken place in very calm water and conditions. . . . the docking plan was then used to set the keel and bilge blocks in the slip.[9]

9. Wegner, *Fouled Anchors*, 78, 159.

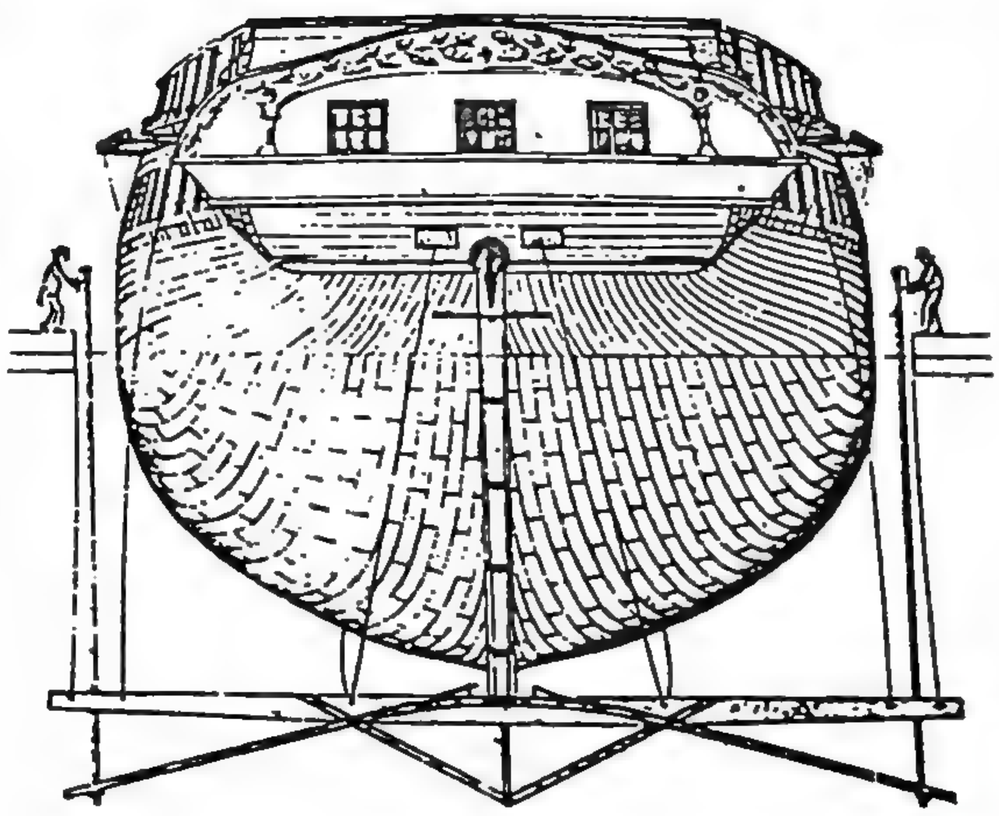
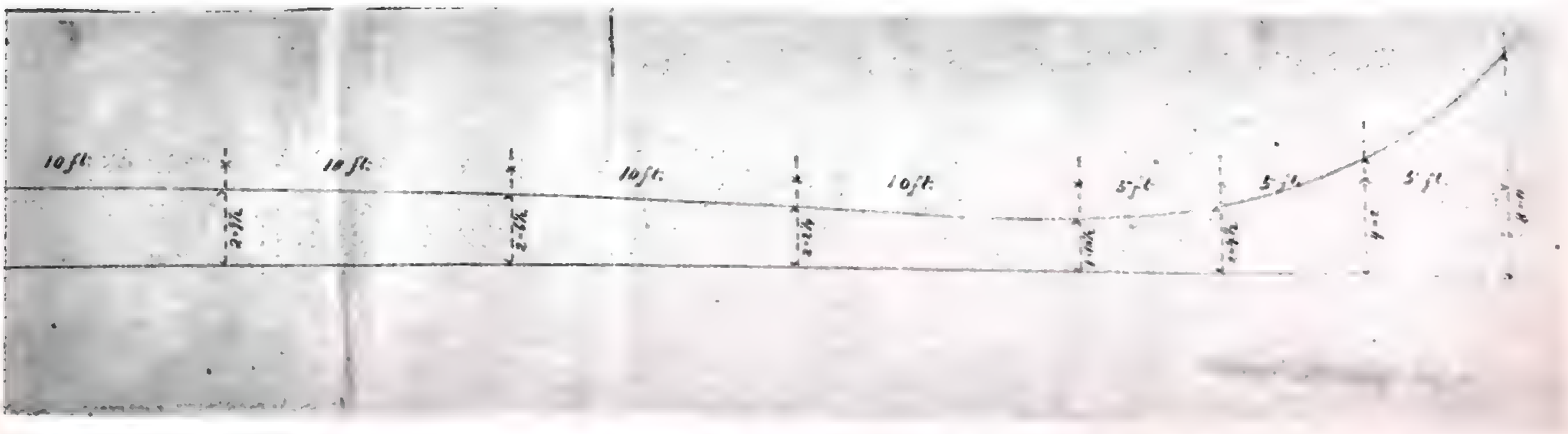


Figure 2: Barges with underwater beam for measuring hog in keel for keel block placement, as shown in Wegner, *Fouled Anchors*, p. 180, fig. 25, from Entry 405-A, NA, RG 45.



RG 19). Such accurate measurements could not have been made with a pantographic device such as that shown in figure 2 above.

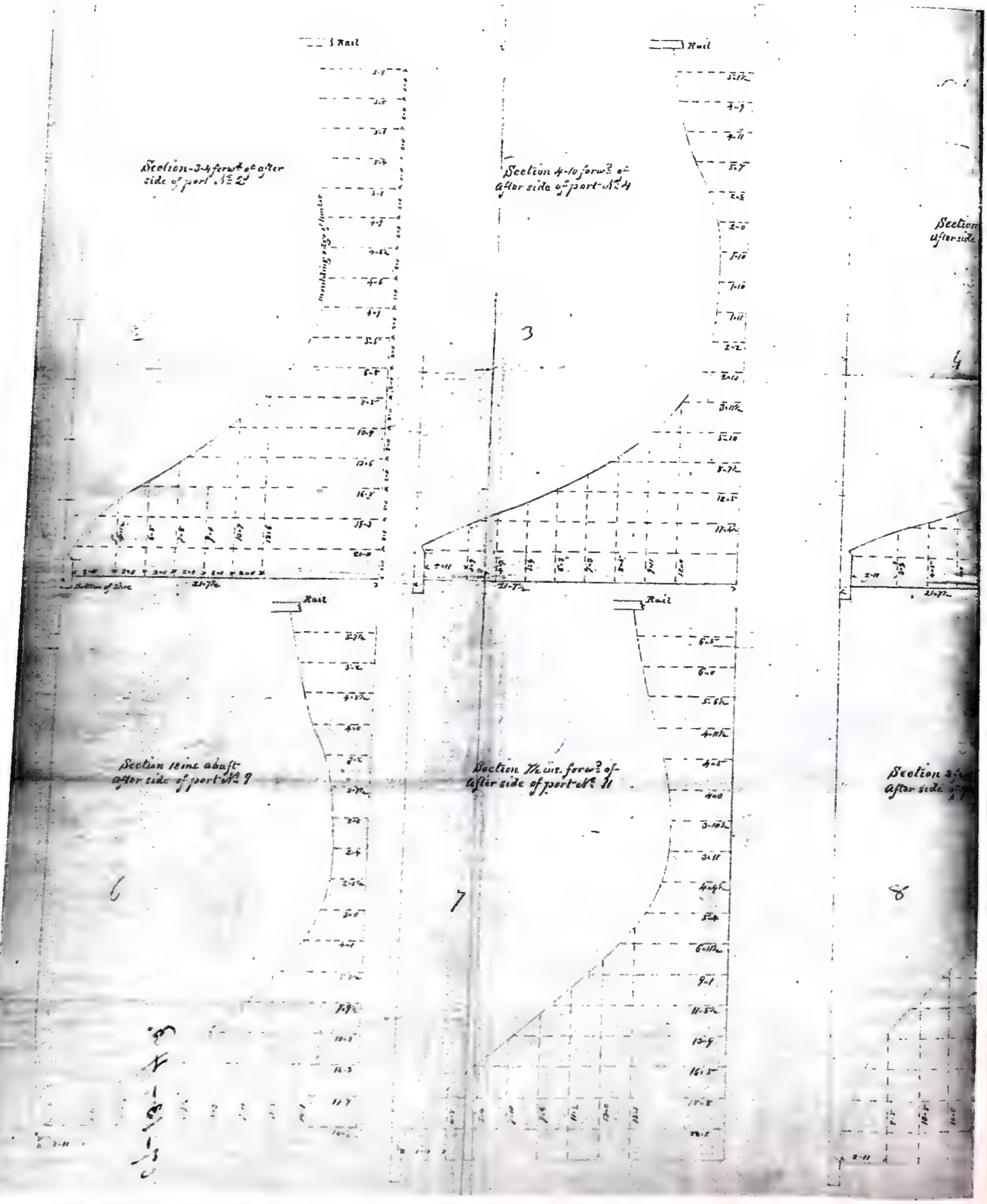
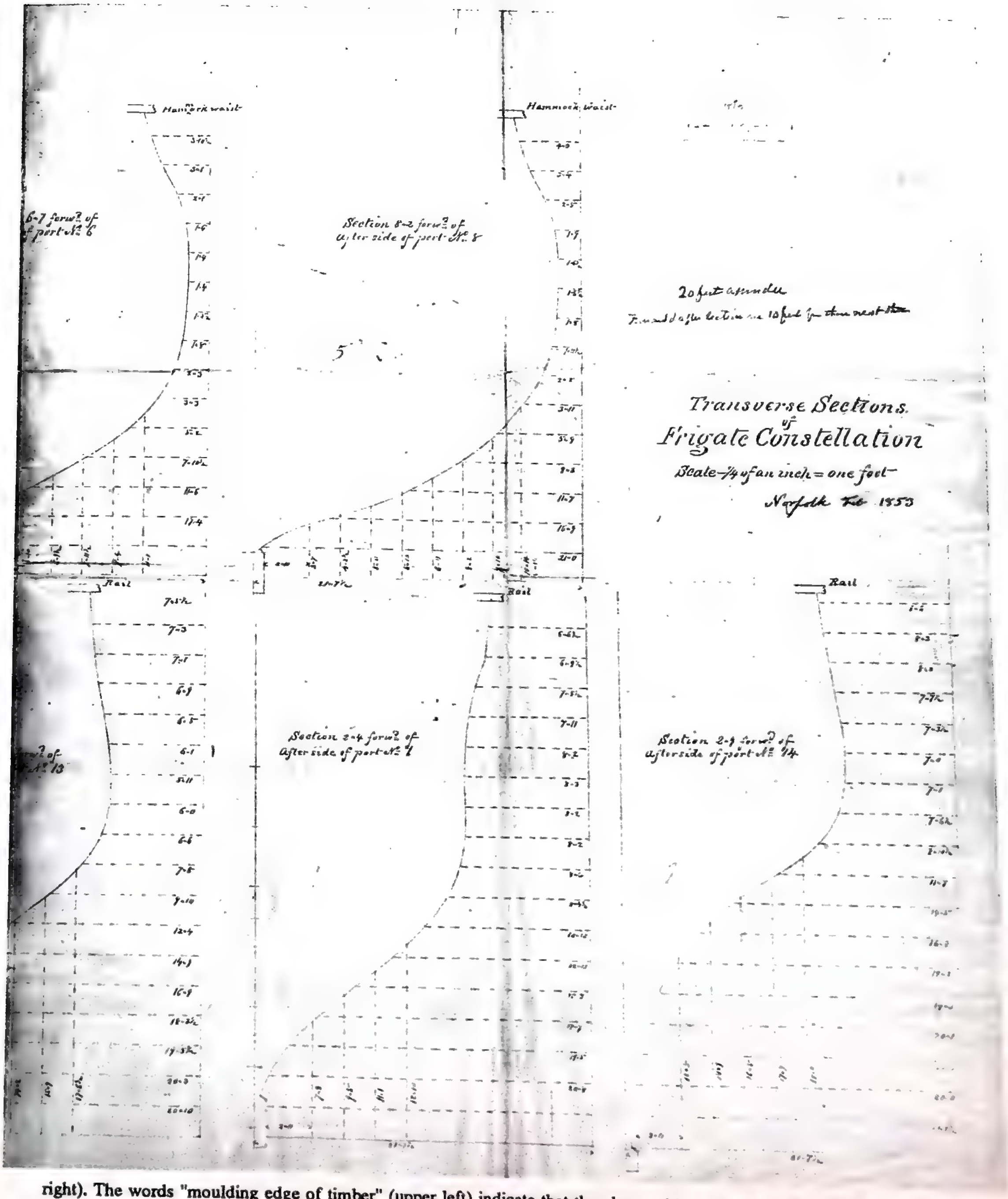

Rail
Section 3-4 forwd of after side of port No 2
Section 4-10 forwd of after side of port No 4
Section 12 inc abaft after side of port No 9
Section 11 ins. forwd of after side of port No 11
Section 3 after side of
2
3
4
6
7
8

Figure 3: The transverse sections plan for *Constellation* above, #107-13-4B, NA, RG 19, is dated in a different handwriting (upper


Hammock waist
Rail
Section 8-2 forw.d of after side of port-No. 8
Section 2-4 forw.d of After side of port-No. 4
Section 2-4 forw.d of afterside of port-No. 14
20 feet afterwards
Transverse Sections
of
Frigate Constellation
Scale-¼ of an inch = one foot
Norfolk Va 1853

right). The words "moulding edge of timber" (upper left) indicate that the plan could not have been drawn in February 1853.

As I stated in my previous article "The USS *Constellation*, 1797 to 1979,"[10] "It is therefore physically impossible to have taken keel measurements on *Constellation* in January 1853, as she was still in the water." Proof of this is in the *Constellation* keel plan in question. Measurements recording the distance between the lower edge of the rabbet and the bottom of the false keel were taken every ten feet. The measurements are extremely accurate. The distance between the bottom of the false keel and the keel rabbet are measured down to a ¼-inch tolerance. (No hog measurements are taken giving distances to a horizontal.)

Imagine, as Wegner proposes, two barges alongside the old frigate with eight years of growth on *Constellation*'s bottom. He suggests that two men in two barges on a calm day could poke through eight years of bottom growth and measure the bottom of the false keel to the keel rabbet to ¼-inch accuracy. To do so would be impossible. Moreover, how could they set keel and bilge blocks with only false keel dimensions?

It is important to note that the device shown by Wegner (reproduced in figure 2 on page 97) is used for measuring hog in a keel. A look at Wegner's diagram clearly shows that there is no way this device physically could have taken the measurements shown on plan 107-13-4A, particularly in the bow area.

In addition to the keel plan are drawings for nine transverse sections of the frigate *Constellation* (plan 107-13-4B, RG 19). The February 1853 date is written in a different color ink and in different handwriting, as shown in figure 3 on pages 98-99. Wegner states:

> Another drawing on linen dated Norfolk, February 1853 was prepared probably after the ship was in the slip. . . . This second drawing had its measurements given from the outside in. Such dimensions were probably useful in 1853 for building the shoring necessary to hold the ship upright while it was dismantled.[11]

Along the frame near port number two, however, the plan is labeled "moulding edge of timber." In order to measure to the moulding edge of the frame timber from the outside in on the nine frames, it would have been necessary to strip *Constellation* down to her bare frames. She was pulled out of the water on 23 February 1853 and was not taken completely down (necessary to do the transverse sections) until 16 May 1853.[12] Therefore, this cannot be a February 1853 plan.

These nine transverse sections have 208 measurements shown, down to a ½-inch accuracy. If these 208 measurements were taken in the last five days of February to build shoring to hold the ship upright, as Wegner states, what was holding the ship upright while the measurements were being taken? Moreover, if the ship were being dismantled to auction off the timbers, as Wegner suggests,[13] why take 208 precise measurements?

Moreover, another transverse section plan of *Constellation*[14] dated 11 January 1839 clearly shows adjusted tumble-home *prior* to 1839. This 1839 tumble-home is different from that shown in National Archives plan 107-13-4B. Therefore, the latter plan must predate 1839.

Wegner also refers to an 1840 *Constellation* lower hold plan, saying that:

> A hold plan is a diagram which outlines the usable interior stowage space in a ship's hold. Because usable storage space does not bear a direct relationship to the exterior shape of a ship, it is not a reliable document in this case.[15]

The 1840 *Constellation* lower hold stowage plan[16] (see figure 4 opposite) matches the transverse section plan 107-13-4B twelve feet above the base of the keel, *aft* of the centerline, but the bow section of the 1840 plan clearly shows a much sharper bow than the 1797 design. Wegner's statement in *Fouled Anchors* would be acceptable if the hold plan did not line up anywhere. But why should it correctly match the shape of the ship in the stern, but not match in the bow? This plan suggests that the bow was sharpened *prior* to 1840. This lower hold stowage plan does not match the National Archives transverse section plan (107-13-4B) in the bow; therefore, the transverse section plan must predate 1840.

By incorrectly dating the hull and keel plans, Wegner has confused the facts. There is no way that the transverse sections and keel plans he cites were pulled off the ship in 1853. Moreover, Wegner's suggestion of an underwater pantographic device to set the keel blocks does not make sense. The false keel could not be measured to a ¼-inch tolerance with the device he has shown. The transverse

10. Evan Randolph, "The USS Constellation, 1797 to 1979," *The American Neptune* 39, no. 4 (1979): 237.

11. Wegner, *Fouled Anchors*, 78.

12. Entry, Logbook, U.S. Navy Yard, Gosport, Virginia, 16 May 1853.

13. Wegner, *Fouled Anchors*, 4.

14. Lloyd Olson Collection, Box B, Washington Navy Yard, Bldg. 57.

15. Wegner, *Fouled Anchors*, 124, n. 199.

16. Logs, Boston Navy Yard, 1841, Records of Yards and Docks, Record Group 71, National Archives.

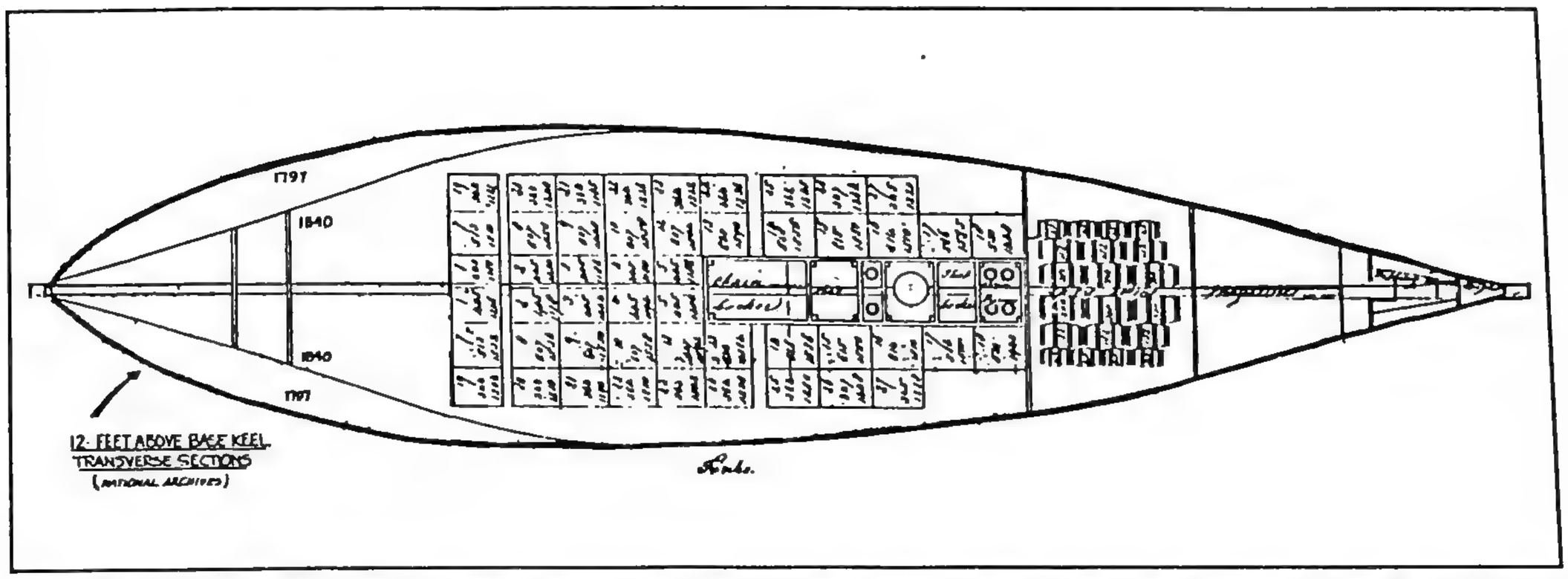


Figure 4: This 1840 lower hold stowage plan for the *Constellation* suggests that the bow was sharpened prior to 1840. From Boston Navy Yard Logs, NA, RG 71.

section plan requires the ship to be stripped to her bare frames in order to measure "moulding edge of timber" on the nine frames. This stripping was not done in February of 1853. Wegner waives off the 1840 *Constellation* stowage plan as not representing the shape of the ship. He has probably seen the 1839 transverse section plan showing adjusted tumble-home in the Lloyd Olson Collection (which he has extensively reviewed), but he overlooks the evidence that the hull shape was changed prior to 1839/1840. Despite all this evidence to the contrary, Wegner incorrectly dates the plans as 1853 and uses them as one of his key pieces of evidence in his attempt to deprive *Constellation* of her true heritage.

Conclusion

The case of whether *Constellation* survived the 1853 rebuilding rests ultimately with the thinking of the key senior naval personnel involved at the time. Naval Constructor John Lenthall suggested a plan for converting the vessel "if the ancient renown of this ship makes it desirable to retain her." He felt that the old *Constellation* should be abandoned if it was proposed to build a vessel of 3,300 tons to replace her. He realized that not much wood could be saved "though probably the lower part of the frame may be sound," and that it would cost additional funds to take apart the old first ("for in point of economy there will be a loss") before building the new.[17] The chief of the Bureau of Construction agreed that "if the *Constellation* is worthy of repair, . . . convert her into a sloop of war."[18] Thus, the stated plan of naval officials was to retain and convert the old *Constellation*. The old ship was to be abandoned if she was not worthy of repair or if it was proposed to build a much larger vessel to take her place. But the old ship was not abandoned. She was first taken apart at additional cost and the materials that could be saved were integrated into the new sloop-of-war. The new ship contained timbers from the old. *Constellation* survived in altered form as was specifically planned by senior naval officials at the time.

17. Lenthall to Skinner, 18 December 1851, NA, RG 45.

18. Skinner to Graham, 19 December 1981, NA, RG 19.

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The Caribbean Theater Transformed: Britain, France, Germany, and the U.S., 1900-1906

RICHARD H. COLLIN

When President Theodore Roosevelt reviewed America's sixteen battleships at Norfolk, Virginia on 16 December 1907, as the Great White Fleet prepared to leave for its unprecedented around-the-world cruise, the United States was the world's second naval power behind Great Britain.[1] Just a little over a decade before Roosevelt assembled the sixteen battleships (ten of which were built after the Spanish-American War of 1898), the United States was given little chance of defeating even a country as weak as Spain. When the British administrator at Hong Kong told Commodore George Dewey that the American Asiatic squadron could no longer stay in a neutral British port because America had declared war on Spain, the British naval officers who assembled to see the Americans off were sure they would never see Dewey's men again. But when Dewey's small squadron of six warships — three protected cruisers, no battleships — won its victory at Manila, the United States took the first step toward establishing itself as a new naval power.[2]

For both Presidents McKinley and Roosevelt, removing Europe from the Caribbean and winning European recognition of the United States as a world power was a first priority. The Caribbean Sea became the main naval battleground and Germany became America's main adversary.[3] For Roosevelt and the Navy's new General Board led by Dewey, America's first four star admiral, the old Monroe Doctrine best expressed American policy.[4] The most effective weapon, however, in convincing Europe that weak Latin American governments could not be exploited through gunboat diplomacy and that European national conflicts could not be imported to American waters was the adept symbolic use of naval power. Furthermore, the dramatic sailing of the entire American battleship fleet to Asia — a magnificent demonstration of

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1. James R. Reckner, *Teddy Roosevelt's Great White Fleet* (Annapolis: Naval Institute Press, 1988), is the most recent and soundest work on the naval and diplomatic consequences of the cruise. In 1906 Fred T. Jane, *Jane's Fighting Ships, 1906-07* (London: Sampson, Low, Marston, 1906), 89, replaced France with the United States.

2. Walter T. Herrick, *The American Naval Revolution* (Baton Rouge: Louisiana State University Press, 1966), esp. 231-32, 247. David Trask, *The War With Spain in 1898* (New York: The Macmillan Company, 1981), is recent and exhaustive.

3. Charles D. Sigsbee, Report to the General Board (hereafter GB), 21 May 1900, Germany versus the United States — West Indies, in GB 435 War Portfolios, Record Group 80, National Archives, Washington, D. C. (hereafter NA, RG 80). For Germany's Caribbean ambitions and rivalry with the United States, see Holger H. Herwig, *Politics of Frustration: The United States in German Naval Planning, 1899-1941* (Boston: Little, Brown, and Company, 1976), 13-92; Herwig, *Germany's Vision of Empire in Venezuela, 1871-1941* (Princeton: Princeton University Press, 1986); Richard D. Challener, *Admirals, Generals, and American Foreign Policy, 1898-1914* (Princeton: Princeton University Press, 1973), esp. 16-17, 28-35, 67-68; Ronald Spector, *Admiral of the New Empire: The Life and Career of George Dewey* (Baton Rouge: Louisiana State University Press, 1974), esp. 41, 103, 130-36 141-47, 185-87; and Outten Jones Clinard, *Japan's Influence on American Naval Power, 1897-1917* (Berkeley: University of California Press, 1947), 1-114. Donald A. Yerxa, *Admirals and Empire: The United States Navy and the Caribbean, 1898-1945* (Columbia, SC: University of South Carolina Press, 1991), in spite of its title, is weak on this period.

4. The standard history of the Monroe Doctrine is Dexter Perkins, *The Monroe Doctrine, 1823-1826, 1827-1867, 1867-1907* (Cambridge, MA, 1927; Baltimore, 1933, 1937). See also Theodore Roosevelt, "The Monroe Doctrine," in Roosevelt, *Works, National Edition*, 20 vols. (New York, 1926), 13: 168-81. General Board and operating naval forces reports routinely used the phrase "Monroe Doctrine" as a synonym for American vital interests. See John A. S. Grenville and George Berkeley Young, *Politics, Strategy, and American Diplomacy: Studies in Foreign Policy, 1873-1917* (New Haven, CT: Yale University Press, 1966), 302-05. For the origins of the General Board see Daniel J. Costello, "Planning for War: A History of the General Board of the Navy, 1900-1914" (Ph.D. diss., Fletcher School of Law and Diplomacy, 1959).

Mahan's concept of sea power — was striking evidence that by 1907 the Caribbean was securely American and that Japan had replaced Germany as America's chief naval antagonist.[5]

Although the General Board at first wanted four naval stations in Cuba, in 1903 the U.S. chose Guantánamo, the strategic key to the Caribbean, as its only Cuban naval base. Guantánamo, a temporary base at San Juan, Puerto Rico, and a base at Culebra Island five miles north of Puerto Rico gave the United States logistic and strategic control of the Caribbean Sea.[6]

In 1898 the well-publicized twelve-thousand-mile odyssey of the battleship *Oregon*, which sailed from the Pacific coast on its way to participate in the Battle of Santiago, dramatized the American need for an inter-oceanic canal in Central America. Although Britain resisted American demands for complete military control of a future canal, it yielded to American wishes because events in Europe, Africa, and Asia challenged even Britain's huge naval resources. The Fashoda crisis with the French in 1898, the monumental naval, military, and logistical demands that the Boer War imposed, Germany's seizure of Kiaochow, China in November 1897, and its two threatening Naval Laws of 1898 and 1900 made it impossible for Britain to contest seriously American hegemony in the Caribbean or in Central America. Although the Admiralty advised that an American canal "was not really in the interests of Great Britain," eventually Britain agreed to all the American demands in the Hay-Pauncefote II Treaty signed by President Roosevelt in December 1901.[7]

Not even the British had enough coal sources in the Caribbean to challenge the Americans effectively. Although the Americans worried that coal technology made the United States more vulnerable, the huge demand for coal by steam warships made European operations in the Caribbean extremely difficult. Distances between ports were considerable, and coal had to be conserved because it was costly and because it was needed for possible emergencies that might be encountered on a long voyage. Vessels could not obtain neutral port coal during war, and securing a port with coal required many more warships than any European country could spare from Asia, Europe, or Africa.[8] Germany's primary concern was building battleships to contest British Atlantic and North Sea supremacy; thus, the Germans had only one warship, the new armored cruiser *Panther*, suitable for use in the

5. George Dewey thought Germany was still a threat. See Dewey to Secretary of the Navy (hereafter SN), 20 June 1906, in GB 438, NA, RG 80. For the Navy's continued use of Germany as a scare tactic, see Spector, *Admiral of the New Empire*, 135. For Japan becoming the main naval threat, see George T. Davis, *A Navy Second to None: The Development of Modern American Naval Policy* (New York: Harcourt, Brace, 1940), 126, and William Reynolds Braisted, *The United States Navy in the Pacific, 1897-1909* (Austin, TX: University of Texas Press, 1958), esp. 191-215.

6. The location of possible American naval bases in Cuba is in Dewey to Francis J. Higginson, 11 October 1901, Box 56, George Dewey Papers, Library of Congress (hereafter LC), and Arent S. Crowninshield to GB, November 1, 1901, GB Letterpress (hereafter GBL), NA, RG 80. For the Guantánamo-San Juan basis of American naval strategy, see Dewey to GB, 12 November 1901. Guantánamo's tactical superiority is in Robley Evans to GB, No. 25, 11 March 1902, GBL, NA, RG 80. For the inadequacy of San Juan, see Dewey to SN, GB No. 26, 30 September 1902, in GB 414-1, Coaling Depots, NA, RG 80. For the early development of Culebra, see File No. 10602, Box 477, NA, RG 80; the extensive correspondence, mostly from Rear Admiral Joseph Coghlan, is in Caribbean Squadron, Letters Sent to the Navy Department, June 1902-April 1904, Entry 51, Record Group 313, National Archives, and GB No. 246, 27 March 1902, in GBL, NA, RG 80. A historical assessment of Culebra and a detailed account of its assets is in Culebra Advanced Base Plan, April 1916, GB War Plans, GB 425, Box 9, NA, RG 80. See also Kenneth Bourne, *Britain and the Balance of Power in North America, 1815-1908* (Berkeley: University of California Press, 1967), 346-47, and Bradley M. Reynolds, "Guantánamo Bay, Cuba: The History of an American Naval Base and its Relationship to the Formation of U.S. Foreign Policy and Military Strategy Toward the Caribbean" (Ph.D. diss., University of Southern California, 1982).

7. For the Anglo-American negotiations and the British naval and military memoranda, see Charles S. Campbell, *Anglo-American Understanding, 1898-1903* (Baltimore: Johns Hopkins University Press, 1957), 272-76, 350-68. For the mounting pressure on Britain, see R. G Neale, *Great Britain and the United States, 1898-1900* (East Lansing, MI: Michigan State University Press, 1966), xiii-xxii; Ernest L. Woodward, *Great Britain and the German Navy* (Oxford: Clarendon Press, 1935), 3-86; and Arthur Marder, *The Anatomy of British Sea Power* (New York: Knopf, 1940). Changing American support for a canal is summarized in Alfred Charles Richard, Jr., "The Panama Canal in American National Consciousness, 1870-1922" (Ph.D. diss., Boston University, 1969).

8. Mahan's plan of defense against a possible British naval attack was to hold New York harbor, which because of its two exits was almost impossible to blockade effectively, while seizing (within six months) Britain's only North American coal depot at Nova Scotia. See Bourne, *Britain and the Balance of Power in North America*, 311, 313; Bernard Brodie, *Sea Power in the Machine Age* (Princeton, 1941), 105-26; Theodore Ropp, *The Development of a Modern Navy: French Naval Policy, 1871-1904* (Annapolis: Naval Institute Press, 1987), 355. For the problems of coaling and a list of active American coaling stations "in order of strategic importance," see Dewey to SN, 30 September 1902, in GB 414-1, NA, RG 80. For the expense of coal see *Annual Report of the Secretary of the Navy*, 1902, Serial 4445, 470-72. Oil was more of a threat to U.S. control of the Caribbean than coal. See Seward Livermore, "The American Navy as a Factor in World Politics," *American Historical Review* 63 (1958): 873. For the way oil made distant blockades feasible, see the American plan for a siege of Kiaochow, China, in War Problem of 1903, Record Group 12 (hereafter RG 12), Naval War College Archives, Newport, RI.

Panther, 1901, was an early "predator" class gunboat of 977 tons. Her attack on Fort San Carlos, Venezuela, on 21 January 1903 turned world opinion further against the German intervention. From Hans Jürgen Hansen, *The Ships of the German Fleets, 1848-1945* (Annapolis, MD: Naval Institute Press, 1987).

mostly shallow-draft Caribbean ports. Although Germany relied on Albert Ballin's Hamburg-American Line's supply of coal and used Dutch Curaçao as its main naval port for the "East-American Cruiser Division" established in December, 1902, the Germans could not have defended their coal against a determined American attack.[9]

Nor could any of the European naval powers deal with the demands of tropical naval duty. As the American naval presence in the Caribbean increased, the Americans constantly moved ships' crews out of the malaria and yellow fever danger zones. America could exchange vessels from tropical to temperate zones; the Europeans could not, except at great expense.[10] Moreover, crises such as the Boxer Rebellion of 1900 drew huge concentrations of warships to Asia, a region everyone thought more essential than the Caribbean, where operations were more costly. Though Germany, France, and Britain still indulged in war plans involving a war with the United States, these were at best naval war college exercises and at worst naval fantasies, such as the kaiser's plan to direct German naval operations against America from a Cape Cod captured by the Germans.[11]

9. Holger H. Herwig and J. Leon Helguera, *Alemania y el bloqueo international de Venezuela, 1902/03* (Caracas: Editorial Arte, 1977), 23-33; Herwig, *Politics of Frustration*, 76-78. For German emphasis on ships suited for North Sea combat against Britain and Germany's increasing incapacity to contest the United States in the Caribbean, see Ivo Lambi, *The Navy and German Power Politics, 1862-1914* (Boston: Unwin, 1984), 226-35. See also Holger H. Herwig, *'Luxury Fleet': The Imperial German Navy, 1888-1918* (London: Unwin, 1980), 15-68; and Jonathan Steinberg, *Yesterday's Deterrent: Tirpitz and the Birth of the German Battle Fleet* (London: Macdonald, 1965).

10. SN, *Annual Report*, 1902, 468. For British Admiralty concems over the "unhealthy" climate, see Wayne Lee Guthrie, "The Anglo-American Intervention in Venezuela, 1902-03" (Ph.D. diss., University of California, San Diego, 1983), 62. For French difficulties with tropical climates, see Contre-Amiral Louis Rivet's report, 9 October 1904, which states that *Troude* was not equipped for warmer climates and *Jurien de la Graviere* was seriously defective, in BB^4, 1667, Archives de la Marine, Château de Vincennes (hereafter AMCV). See also *Troude* to *Tage*, 23 December 1903, in BB^4 1679, AMCV.

11. *Brassey's Naval Annual, 1901* (London: Brassey's, 1901), 73-

The United States Navy became Panama's *de facto* security force after the Bidlack-Mallarino Treaty (1846) guaranteed New Granada (which became Colombia in 1863) sovereignty over Panama and gave the United States the "right of transit" across the isthmus.[12] The U.S. Navy intervened so frequently in Panama that the Americans argued that the Navy's constant responsibility had given the U.S. sufficient rights of sovereignty to preclude Colombia from unilaterally barring a canal at Panama, as the Colombian Senate's 0-24 rejection of the Hay-Herrán Treaty appeared to do.[13]

When Colombia's War of the Thousand Days (1899-1902) exploded into Panama, Captain Thomas McLean's *Cincinnati* was sent to restore order on 12 September 1902. Colombia's acting President José Marroquín simultaneously requested American mediation to end Colombia's civil war, shrewdly counting on the American intervention to prevent the Liberal capture of Colón and Panama and allow Colombia time to reinforce and hold Panama. Because Marroquín's request for mediation and the independent American treaty intervention occurred almost at once, neither side was aware of their conflicting motives.[14] Although Marroquín was furious that Colombia could not use its own trains — guarded by Navy bluejackets — and by the American policy of neutrality in Colombia's civil war, the naval intervention saved his revolution.[15]

Because Marroquín did not tell José Concha, his minister in Washington, that Colombia had requested American mediation, Concha assumed that the Americans had gone berserk and refused to conclude the last phases of the Panama Canal agreement with John Hay. His decision marked the beginning of the ultimate American-Colombian diplomatic breakdown.[16] Both sides assured the Americans, however, that settling the civil war would clear the way for approval of the American canal at Panama. These assurances were specifically included in the Treaty of *Wisconsin* signed on board the American battleship on 21 November 1902, which formally ended the War of the Thousand Days, a bloody war in which over one hundred thousand Colombians were killed.[17]

Increasing Latin American instability, mounting problems of debt default, a new sense of Latin American nationalism fueled by the writings of Cuban revolutionary and martyr José Martí, and widespread frustration over the failure of positivist-inspired development capitalism all contributed to European impatience with Latin American governments.[18] In the course of Venezuela's civil war, for example, Cipriano Castro went beyond his predecessor Antonio Guzmán Blanco's nuanced use of anti-foreign rhetoric in the 1880s. Castro waged war on British Trinidad, treated the substantial numbers of German nationals in Venezuela with contempt, and refused to deal realistically or at all with foreign diplomatic protests.[19] In 1902 British outrage at such treatment, combined with

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77; Braisted, *The United States Navy in the Pacific*, 75-114; Holder H. Herwig and David F. Trask, "Naval Operations Plans Between Germany and the USA, 1898-1913: A Study of Strategic Planning in the Age of Imperialism" and John A. S. Grenville, "Diplomacy and War Plans in the United States, 1890-1917," both in Paul M. Kennedy, ed., *The War Plans of the Great Powers, 1880-1914* (Boston: Unwin, 1979), 39-74, 23-38. For British plans for war with the Unites States, see Boume, *Britain and the Balance of Power in North America*, esp. 324-35, 346-412. For the French assessment of defenses of key American cities, see "Defense des Cotes des Etats-unis de l'Amerique du Nord, Janvier, 1896," in BB^7, 46, AMCV. See the GB request for a plan of attack on Saigon and Tonkin in GB to Naval War College, 30 July 1903, GB 425, NA, RG 80. The American Indochina war plan is in the Summer 1904 Problem, RG 12, Naval War College Archives. For why France was chosen as the subject of an American war plan, see President, Naval War College, to GB, 18 January 1904: a "contest with England has been considered six times by the class in attendance."

12. For American naval involvement in the isthmus through 1902, see *The Use of Military Force in Colombia*, Senate Documents, 59th Cong., 2nd Sess., No. 143. For summaries of the naval interventions of 1856, 1860, 1865, 1868, May and September, 1873, January and March, 1885, 1901, 1902, and 1903, see Milton Offutt, *The Protection of Citizens Abroad by Armed Forces of the United States* (Baltimore, 1928), 37, 48, 52, 60-61, 66-67, 89, 94, 96. For the origins of the Bidlack-Mallarino treaty, see Richard H. Collin, *Theodore Roosevelt's Caribbean: The Panama Canal, The Monroe Doctrine, and The Latin American Context* (Baton Rouge: Louisiana State University Press, 1990), 127-62.

13. For the American defense of its vital interests in Panama, see John Bassett Moore, Memorandum, August 1903, in Dwight Carroll Miner, *The Fight for the Panama Route: The Story of the Spooner Act and the Hay-Herrán Treaty* (New York: Columbia University Press 1940), 427-32.

14. For the naval intervention and American-Colombian diplomacy, see "Interference with Transit on Isthmus of Panama," in Henry B. Ames to John Bassett Moore, Panama Affair Subject Folder, Box 134, John Bassett Moore Papers, LC.

15. *The Use of Military Force in Colombia*, 280-92. A summary is in SN, *Annual Report*, 1903, Serial 4642, 1230-1.

16. Miner, *Fight for the Panama Route*, 236-7, 173-88.

17. For the correspondence and the treaty text, see *Use of Military Force in Colombia*, 333, 319-21. See also Charles Bergquist, *Coffee and Conflict in Colombia, 1886-1910* (Durham, NC, 1978), 187.

18. For Martí, the new Latin nationalism, and the debt problems, see Collin, *Theodore Roosevelt's Caribbean*, esp. 3-36, 60-102.

19. For Venezuela see Miriam Hood, *Gunboat Diplomacy, 1895-1905: Great Power Pressure in Venezuela* (London: Unwin, 1975); Judith Ewell, *Venezuela: A Century of Change* (Stanford: Stanford University Press, 1984); William Sullivan, "The Rise of Despotism in Venezuela: Cipriano Castro, 1899-1908" (Ph.D. diss., University of New Mexico, 1974); Guthrie "The Anglo-German Intervention in Venezuela."

German discontent over the defaulted debts and the mounting claims from Venezuela's civil war, caused both powers to feel that the man Theodore Roosevelt later called "that villainous little monkey" should be taught a lesson. Britain's usual diplomatic balance was skewed because of the death of Britain's Ambassador to Washington, Lord Pauncefote, King Edward's unexpected illness, the end of the Boer War, Lord Salisbury's retirement, and his successor Lord Lansdowne's desire to avoid a complete break with Germany. Germany was quixotic. The kaiser, who hated the Monroe Doctrine and saw a chance to challenge it, badly underestimated American resolve and intelligence. He relied on a fatuous goodwill mission by Prince Henry in April 1902 to lull the Americans and expected that somehow the U.S. would blame Britain for the joint intervention.[20]

Neither European power thought carefully about the difficulties of blockading a country as large as Venezuela. On 16 April 1901, the British cruiser *Grafton* had bluffed seizing Guatemala's customhouses and won a $199,049 payment from President Estrada Cabrera (from a defaulted debt of $7.8 million). In June 1902 the French cruiser *Suchet* held a Venezuelan gunboat until French merchants arrested in a customs dispute were released.[21] But a full scale confrontation with Castro's Venezuela was foolhardy. Germany did not possess enough warships to blockade all Venezuelan ports even if the U.S. agreed, and Britain had to wait until the end of the Newfoundland fishery season, which was the primary reason for British and French interest in North America, to rush the warships the Anglo-Germans needed for a blockade. The Anglo-Germans easily disposed of Venezuela's nine-ship navy, but they were helpless when Castro jailed every German and British national his police could find and thousands of Venezuelans volunteered to fight a possible invasion.[22]

Lansdowne was more concerned with European imperial politics than American sensitivities (the Italians, for example, became a part of the blockade in return for African concessions), but he soon became aware that the Europeans had blundered.[23] The Americans used the European embarrassment in Venezuela to establish the Monroe Doctrine in practice. In June of 1902 the United States began plans to reorganize its scattered naval squadrons into battle fleets and to develop the new naval base at Culebra, which was perfectly situated for a confrontation on the Venezuelan coast. On 4 October 1902 the U.S. formed a Caribbean Squadron to deal with the increasing frequency of brushfire wars in Central America.[24]

Henry Clay Taylor, the intellectual force behind the General Board, set forth in a November 1902 memorandum the twelve ways in which Germany could win a strategic foothold in Venezuela. Taylor warned that Germany could not occupy just one port and that an irresponsible Castro would violently oppose intervention, thereby causing a war with Germany. Though Germany was not seeking a war, she "would not go out of her way to avoid it." After the war began, said Taylor, "Germany *must* win." It would then demand an indemnity for its expenses. Because Venezuela could not pay such a sum, it would become a German dependency. The U.S., therefore, must not allow Germany "to occupy, fit up, or

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20. Warren G. Kneer, *Great Britain and the Caribbean, 1901-1913: A Study in Anglo-German Relations* (East Lansing, MI: Michigan State University Press, 1975), 32-67; Herwig and Helguera, *Alemania y el bloqueo internacional de Venezuela 1902/03*, 15-27; Campbell, *Anglo-American Understanding*, 260, 274. For Prince Henry's visit, see Henry Pringle, *Theodore Roosevelt: A Biography* (New York: Harcourt, 1931), 281-2; Manfred Jonas, *The United States and Germany: A Diplomatic History* (Ithaca, NY: Cornell University Press, 1964), 69-70; and Herwig, *Politics of Frustration*, 74-5.

21. For the *Grafton* and *Suchet* interventions, see Kneer, *Great Britain and the Caribbean*, 1-4, 15-16. For the diplomatic preparations and naval problems, see Guthrie, "The Anglo-German Intervention in Venezuela," 46-107.

22. The shortage of German warships is in Herwig, *Germany's Vision of Empire in Venezuela*, 22. For the importance of the Newfoundland fisheries, see Harold A. Innes, *The Cod Fisheries: The History of An International Economy* (Toronto: University of Toronto Press, 1954), 425-508. Detailed naval fishery reports are in ADM 128/107, Public Record Office (hereafter PRO), Kew. For France see Mission du *Troude*, 1901-1906 in BB^4, 1623, and the reports in Station de Terre-neuve et d'Islande, BB^4, 1622, 1623. See especially *Troude* Captain Etienne Aubry's critical annotated copy of the French-British accords of 1904 concerning French fishing interests, BB^4, 1623. France and Britain both used their Newfoundland fishery duty warships for Caribbean duty after the fishing season ended.

23. Lord Lansdowne to Sir R. Rodd, 5 December 1902; Lansdowne to George Buchanan, 7, 11 December 1902 in Foreign Office 420/206 (hereafter FO), PRO; Guthrie, "The Anglo-German Intervention in Venezuela"; Maruzio Vernassa, *Emigrazione, diplomazia e cannoniero: L'inteventi Italiano in Venezuela* (Leghorn: Editrice Stella, 1980).

24. Seward Livermore, "Theodore Roosevelt, The American Navy, and the Venezuelan Crisis of 1902-03," *American Historical Review* 51 (1946): 452-71. For the Caribbean mobilization, see William H. Moody to Henry C. Taylor, 24 July 1902, and a strategy paper on possible Caribbean threats, 29 August 1902, Box 13, Dewey Papers, LC. For the Caribbean Squadron's original order no. 340327, see Santo Domingo Correspondence (hereafter SDC), Gray 1: 117-18, Entry 305, Record Group 45, National Archives (hereafter NA, RG 45), with an accompanying letter urging naval officers to cultivate friendly relations, familiarity with Caribbean peoples' languages and habits, and the "avoidance of any assumption of superiority," SDC, Gray 1: 119-20.

fortify any port." Taylor further recommended that "we must keep at all times a force in and about Culebra, equal or superior to the whole German force in the Caribbean."[25]

Because Theodore Roosevelt had assembled almost the entire American Navy under the direct command of Admiral Dewey, a well-known German hater, he was able to insist to German Ambassador Theodor von Holleben that Germany accept the American demand that the Venezuelan dispute be arbitrated or face war with Dewey's navy.[26] The intervention began on 9 December. German and British overreaction in the face of Venezuelan obstinacy won overwhelming public support for Roosevelt's reaffirmation of the Monroe Doctrine. On 15 December Britain agreed to arbitrate and on 17 December Germany followed.[27]

Although the blockade continued until February, European acceptance of the principle of arbitration, Britain's public acknowledgement of the Monroe Doctrine by Prime Minister Arthur Balfour before Parliament on 15 December, and Germany's *de facto* acceptance of it marked a change in American-European maritime relations. The kaiser replaced the inept Holleben as American Ambassador with Hermann (Speck) von Sternburg, a close friend and correspondent of Roosevelt.[28] The president's naval diplomacy made it clear that the United States could and would resist European gunboat diplomacy. When the eight thousand sailors of the assembled American fleet at Culebra took Christmas liberty in various Latin American ports, the United States controlled a vast strategic area without having had to fight to establish the Monroe Doctrine formally, as Roosevelt, Elihu Root, and the Navy had long feared. Furthermore, Roosevelt used the Venezuelan confrontation to win public support for larger naval appropriations.[29]

Although the Caribbean Squadron was effective in containing the Honduran insurrection of April, 1903, revolutions in Panama and the Dominican Republic overwhelmed American naval resources.[30] Colombia and Panama had endured an easy marriage of convenience — punctuated by several separations — since their first association after winning independence from Spanish rule in 1821.[31] Panama's revolutionary nucleus that began in April 1903 gained momentum, however, when the Colombian Senate rejected the Hay-Herrán Treaty for a Panama Canal in August 1903. When the leader of Panama's

25. Henry C. Taylor, undated memorandum, reprinted in A. L. P. Dennis, *Adventures in American Diplomacy, 1896-1906* (New York: Dutton, 1928), 291-92. For Taylor's role as the chief American naval strategist and leader of the General Board's Executive Committee, see Costello, "Planning for War," 11-37, and Spector, *Admiral of the New Empire*, 125.

26. Roosevelt's controversial ultimatum to Germany remained secret until he used it in 1916 to attack President Woodrow Wilson's neutrality. See Roosevelt to William R. Thayer, 21 August 1916, in Elting Morison, et al., eds., *The Letters of Theodore Roosevelt*, 8 vols. (Cambridge, MA: Harvard University Press, 1951-1954), 8: 1101-1105. Frederick W. Marks, III, *Velvet on Iron: The Diplomacy of Theodore Roosevelt* (Lincoln, NE: University of Nebraska Press, 1979), 38-54, 70-73, argues that Roosevelt kept his diplomacy secret so as not to embarrass Britain and Germany. See also Edward D. Parsons, "The German-American Crisis of 1902-1903," *Historian* 33 (1971): 436-52; Paul S. Holbo, "Perilous Obscurity: Public Diplomacy and the Press in the Venezuela Crisis, 1902-1903," *Historian* 32 (1970): 428-48; Howard K. Beale, *Theodore Roosevelt and the Rise of America to World Power* (Baltimore: Johns Hopkins University Press, 1956), 399-431, and Edmund Morris, "'A Few Pregnant Days': Theodore Roosevelt and the Venezuelan Crisis of 1902," *Theodore Roosevelt Association Journal* 15 (Winter, 1989): 2-13.

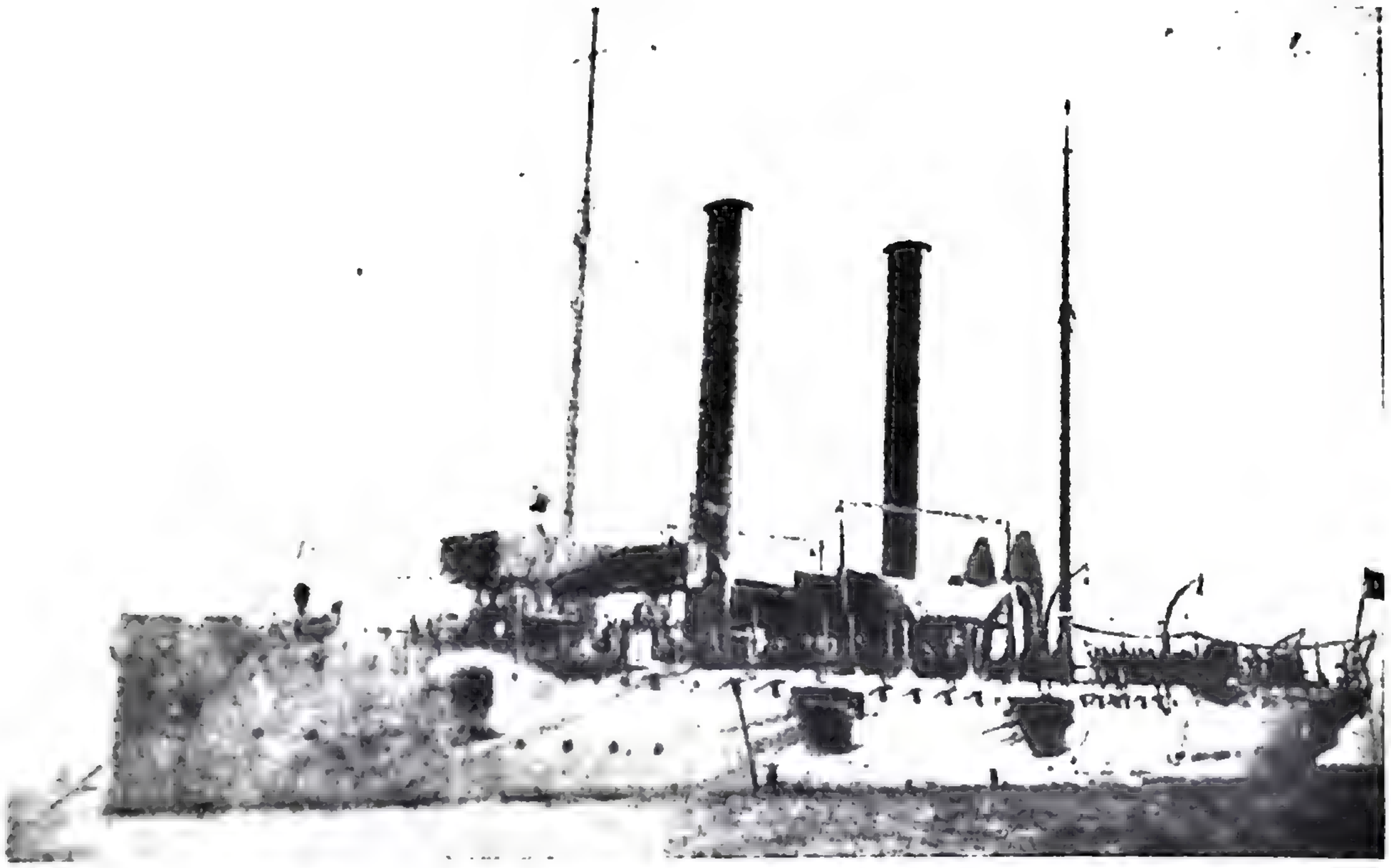
27. Allan Nevins, *Henry White: Thirty Years of American Diplomacy* (New York: The Macmillan Company, 1930), 210; Campbell, *Anglo-American Understanding*, 278-81; Herwig and Helguera, *Alemania y el bloqueo internacional de Venezuela*, 33.

28. Nelson Manfred Blake, "Ambassadors at the Court of Theodore Roosevelt," *Mississippi Valley Historical Review* 42 (1955): 180-89. For German criticism of Sternburg's appointment, see Herwig, *Germany's Vision of Empire in Venezuela*, 202-203.

29. For his original Culebra plan, see Roosevelt to Thomas C. Platt, 28 June 1902; see also Roosevelt to Dewey, 14 June 1902, both in Morison, *Roosevelt Letters* 3: 283, 275. For the Culebra naval maneuvers and the subsequent fleet redeployment, see SN, *Annual Report*, 1903, Serial 4642: 646-50; George Dewey, Journal of the Commander-in-Chief, 1 December 1902 to January 1903 in Box 2, Dewey Papers, LC; Nathan Sargent, Tactical Evolutions off Culebra, 12 January 1903; and General Rules for Fleet Evaluations, *ca.* January 1903 in 1902-03 folder, Box 3, Nathan Sargent Papers, LC. For Roosevelt's use of the Venezuelan crisis to win congressional support for a larger navy, see Albert C. Stillson, "Military Policy Without Political Guidance: Theodore Roosevelt's Navy, *Military Affairs* 25 (Spring, 1961): 22. Roosevelt's 2 April 1903 Chicago address linked the Venezuelan crisis with a plea for a larger navy and marked the first public use of the "speak softly and carry a big stick" phrase. See Roosevelt, *Presidential Addresses and State Papers*, 8 vols. (New York: Review of Reviews, 1910), 1: 265.

30. William C. Windt, vice consul, Ceiba, Honduras, to Assistant Secretary of State Francis Loomis, 2 April 1903, in Area 8 Files, M625, Roll 263, NA, RG 45, reported the German, French, Spanish, and American intervention. For the joint American-Italian peacekeeping mission in Honduras, see Samuel W. Diehl to SN, 8 April 1903. Reports of Italian, Dutch, German, and British warships, American friction with the Dominican navy, the secret mission of Lieutenant Walter S. Crosley to Hispaniola in April 1903, and close American monitoring of German naval activity (*Maine* to SN, 3 April 1903) are in Area 8, M625, Roll 263, NA, RG 45.

31. For a history emphasizing Panamanian separatism, see Ramon Valdes, "The Independence of the Isthmus of Panama — Its History, Causes, and Justification," in U.S. Department of State, *Foreign Relations of the United States* (hereafter *FRUS*), 1903 (Washington, D.C., 1861-), 319-33. See also Alex Perez-Venero, *Before the Five Frontiers: Panama From 1821-1903* (New York: AMS, 1978), and Thomas R. Favell, "The Antecedents of Panama's Separation from Colombia" (Ph.D. diss., Fletcher School of Law and Diplomacy, 1951).



Nashville, an 1895 gunboat of 1392 tons commanded by Captain John Hubbard, was the only U.S. warship in Panamanian waters on 3 November 1903 when Panama revolted against Colombia. From *Jane's Fighting Ships*, 1905/6.

revolution, Dr. Manuel Amador, came to the United States in September 1903, he sought American assurances of neutrality in the event of a revolution. Although Roosevelt refused to encourage Amador, he knew from his own intelligence mission that a revolution was imminent. Roosevelt was willing to shift American support from Colombia to Panama, but only after a revolution occurred. Philippe Bunau-Varilla, Ferdinand de Lesseps' chief Panama Canal engineer and a penalty investor in the bankrupt company, warned the United States that the revolution would occur on 3 November. Bunau-Varilla knew that enough American naval vessels would be sent to assure the Panamanians of the appearance of American support even though the United States was officially neutral.[32]

When the *Nashville* arrived at Colón on 2 November Captain John Hubbard, operating without specific orders, boarded Colombia's troopship *Cartagena* but then allowed the 474 soldiers to land on the isthmus. Hubbard's action put Panama's revolution in jeopardy and definitely should have absolved the Americans of any charges of prior involvement. Although Amador went ahead with his revolution in Panama City on 3 November, the newly landed

32. For Panama's revolution see Miles DuVal, *Cadiz to Cathay: The Story of the Long Diplomatic Struggle for the Panama Canal* (Stanford: Stanford University Press, 1940), 216-351; David McCullough, *The Path Between the Seas* (New York: Simon and Schuster, 1977), 329-86; Collin, *Theodore Roosevelt's Caribbean*, 127-338; G. A. Mellander, *The United States in Panamanian Politics: The Intriguing Formative Years* (Danville, IL: Interstate, 1971), 10-22. Roosevelt's information of an impending revolution in Panama came from Bunau-Varilla at the White House on 8 October 1903 and from Roosevelt's own intelligence mission to Panama. When Captain Chauncey B. Humphrey and Lieutenant Grayson Millet-Prevost Murphy reported to Army Chief of Staff Lt. General Samuel B. M. Young, he arranged a meeting with Roosevelt at the White House on 16 October. See Pringle, *Theodore Roosevelt*, 320-1. The only surviving oral report is in Young to Elihu Root, 24 December 1903, vol. 177, pt. 1: 427-28, Elihu Root Papers, LC; also in Miner, *Fight for the Panama Route*, 354. Although the original War College Department files were destroyed in a 1920s housecleaning program, the mission can be followed in the surviving War College Division Record Cards, M1023, Record Group 165, National Archives (hereafter NA, RG 165), esp. record cards 646, 715, in Roll 1 and 1190, 1301, and 1400, in Roll 2. A confirming naval report, John Hubbard to William H. Moody, 17 October 1903, is quoted in Challener, *Admirals, Generals, and American Foreign Policy*, 154.

Colombian troops at Colón threatened to fire on the small contingent of bluejackets from the *Nashville*. After a tense two-day siege, a tactical blunder by Colombian General Juan B. Tobar gave Panama the chance to bribe the Colombian troops, and the revolution was secure.[33] Pierre Bonhenry, the French vice consul at Colón and a participant in the besieged Nouvelle Compagnie's headquarters, credited the American navy's presence with having avoided a bloody civil war at Panama, a view reflected in French and European support of the American naval actions.[34]

After Colombia, shocked at the loss of Panama, threatened a war to regain the isthmus, the U.S. assembled two large fleets at Colón and Panama City, prepared to mobilize an army of ten thousand troops, and began a joint army-navy secret mission to neutralize the Colombian threat centered on the border swamp outpost of Yavisa. On 21 December 1903, Roosevelt ordered the American garrison of one hundred miserable troops out of Yavisa to avoid the possibility of an accidental and unnecessary war with Colombia. Complete American control of the seas and Colombian preoccupation with its own domestic politics made Panama secure, and by January 1904 the war threat had passed.[35]

Conflict still threatened, however, in the Dominican Republic. Only in December 1903, after a series of civil wars had reduced the country to a state of anarchy, did the General Board take notice. Henry C. Taylor's memorandum of 30 December 1903 termed both Hispaniolan nations "governments and nations in name only." Taylor recommended a continuous American naval presence rather than visits from American warships responding to specific crises.[36] The Navy ordered Rear Admiral William C. Wise's Training Squadron from Pensacola to Guantánamo to supply the constant presence. In addition, Commander Albert C. Dillingham, commanding the third-class cruiser *Detroit*, was sent from Panama to Puerto Plata to investigate Dominican conditions personally. Dillingham, who spoke Spanish fluently, was an inspired choice who took charge as soon as he arrived on 4 January 1904. Working with the more reliable American diplomats, captains of foreign warships, and Dominican revolutionary factions, Dillingham became a universally trusted intermediary. He established the civil war's ground rules: no fighting in cities or using foreigners as hostages. On 17 January 1904, convinced that the black revolutionary Carlos Morales was more reliable than the white Juan Isidro Jimenéz, Dillingham indirectly intervened in the Battle of Puerto Plata to ensure Morales' victory and eventual American recognition of his government.[37]

Morales then sought an American protectorate to bolster his fragile political position and to prevent European intervention. After American warships were fired upon and returned fire, in February 1904 President Roosevelt sent a commission consisting of Admirals Dewey and Taylor and Assistant Secretary of State Francis Loomis on the presidential yacht *Mayflower* to recommend a solution. The Dominican capital of Santo Domingo was so unsettled that Dewey did not go ashore in uniform so as not to attract even more gunfire. Loomis's report to Roosevelt recommended an economic protectorate with American physical control and supervision of the customhouses and the establishment of a naval base at Samaná.[38]

33. Hubbard to Moody, 5, 8 November 1903 in *FRUS*, 1903: 268-71; naval correspondence is in Panama Correspondence, Entry 304, NA, RG 45.

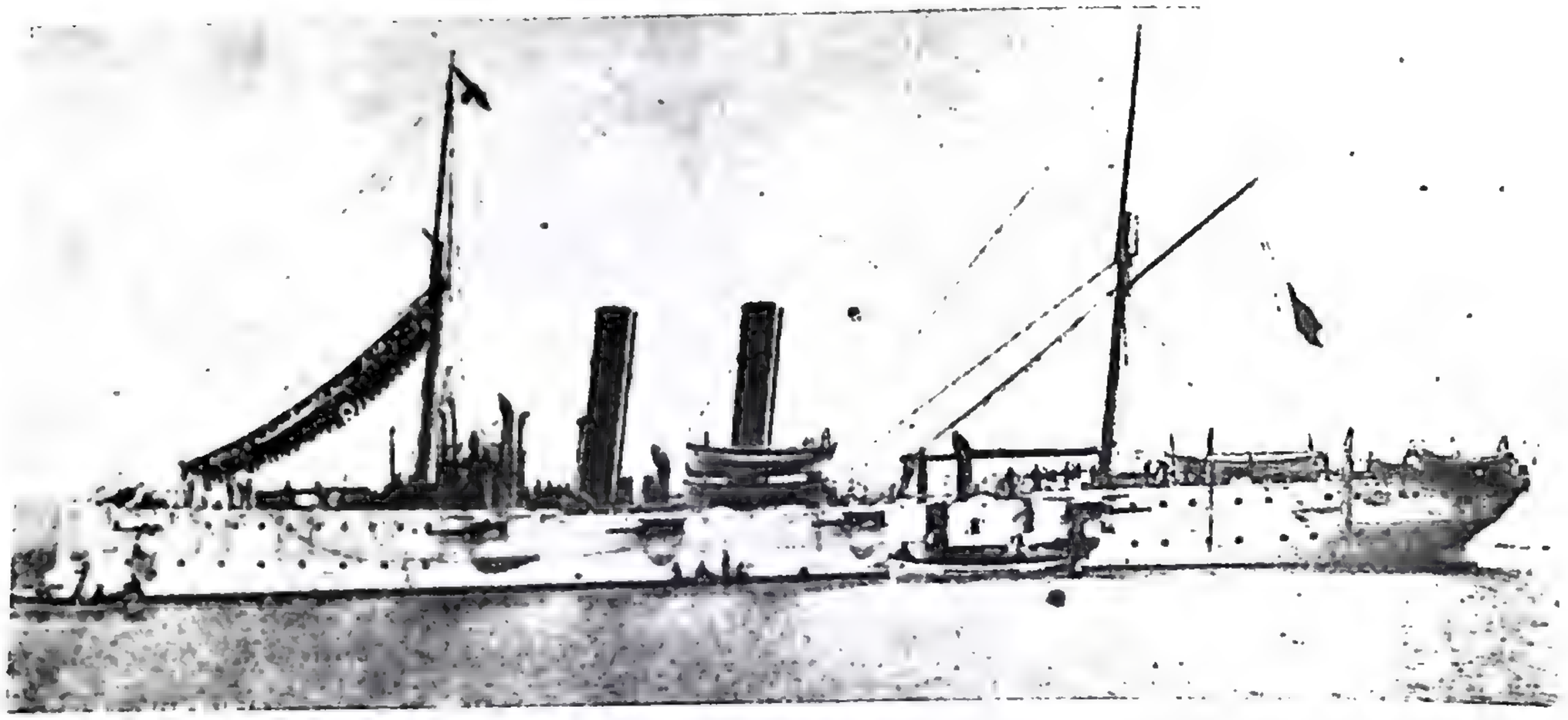
34. Pierre Bonhenry to Ministre des Affairs Étrangère, 7 November 1903, Nouvelle Serie, Colombie, 5, Archives du Ministère des Affairs Étrangère, is an account of the siege of Colón. DuVal, *Cadiz to Cathay*, 336-7, summarizes U.S. naval movements.

35. Colombian reaction is summarized in Joseph L. Arbena, "The Panama Problem in Colombian History" (Ph.D. diss., University of Virginia, 1970), and Arbena, "Colombian Reactions to the Independence of Panama," *Americas* 33 (1976): 130-48. For Colombian General Daniel Ortiz, General Order, 23 November 1903, that declared "it is preferable to see the Colombian race completely extinguished than to submit to the infamous policy of President Roosevelt," see Box 6, Albert C. Gleaves Papers, LC. U.S. naval maneuvers are in Panama Correspondence, Entry 304, NA, RG 45. Roosevelt's original build-up order to Admirals Glass and Coghlan, 10 December 1903, and Henry C. Taylor's handwritten note holding up its sending until "further considered" are in Translations of Cipher Messages Sent, Entry 19, NA, RG 45. For Roosevelt's subsequent withdrawal of American forces order, see Roosevelt to Moody, 21 December 1903, in Morison, *Roosevelt Letters* 3: 674. The Yavisa build-up is summarized in Root Papers, vol 177, pt. 1: 365-70, 382-4, 390-2. Most of the naval correspondence is in the Roosevelt Papers, Reels 39-41, LC. For the War Department's secret mission of Sydney A. Cloman and William Haan and the planned mobilization of two armies, see War College Division files 7113a, 7113b, Box 173, NA, RG 165.

36. Taylor to Moody, 30 December 1903, in vol. 10, Moody Papers, LC.

37. Dillingham's mission can be traced in Area 8, M625, Roll 265, NA, RG 45 and SDC, Entry 305, NA, RG 45, Gray, vol. 1. A summary of his Dominican activities is in Subject File OH, Folder 10, Box 381, NA, RG 45, and Dillingham to Robert Bacon, 1 January 1906, in Miscellaneous Letters of the Department of State, M179, Roll 1228, Record Group 59, National Archives (hereafter NA, RG 59).

38. For the Dominican civil wars and American involvement, see David MacMichael, "The United States and the Dominican Republic, 1871-1940: A Cycle in Caribbean Diplomacy" (Ph.D. diss., University of Oregon, 1964). The naval background is in Challener, *Admirals, Generals, and American Foreign Policy*, 119-48. See also Francis Loomis, "Memorandum for the Secretary of State on the Dominican Republic," Folder 37, No. 36, Box 6, Francis B. Loomis Papers, Stanford University, and Roosevelt to Dewey, 20 February, to Joseph B. Bishop,



Detroit, a 2,000-ton third-class cruiser, served as Commander Albert C. Dillingham's Dominican flagship in 1904. Her sister ship *Marblehead* was the site of the peace conference which ended the Central American wars of 1906. From *Jane's Fighting Ships*, 1905/6.

Roosevelt wisely refused to intervene in 1904 because opposition *jiministas*, probably helped by disaffected Haitian allies, would have contested any American military presence. Loomis agreed with Dillingham that all American naval forces should be placed under a single unified command, and Roosevelt named him the chief American naval operating officer in Dominican waters. In June Dillingham negotiated the *Detroit* Compact, a settlement between the Morales government and the rebels at Monte Christi.[39]

Because the Russo-Japanese War began in February 1904 at the height of the Dominican crisis, Dillingham and the Americans were given a relatively free hand by the Europeans, who were wholly caught up in the Russo-Japanese conflict. The American willingness to accept responsibility through Dillingham's continuous Dominican patrols, even before Roosevelt made responsibility a part of his Roosevelt Corollary to the Monroe Doctrine in March 1905, reassured the Europeans. Only the Americans could assemble enough ships to allow coaling relief at nearby Guantánamo.[40] The Hague Court's decision on 24 February 1904, which granted the blockading powers in Venezuela preferential payment from the settlement, encouraged future European intervention and eventually led to Roosevelt's Corollary.[41]

Under Dillingham's direction, the Dominican peace lasted six months. In December 1904 the Morales government disintegrated, European pressure mounted, and the newly reelected Roosevelt sent Dillingham in January 1905 as an extraordinary State Department naval diplomat to negotiate a limited American financial and naval protectorate. Dillingham and the new American resident minister Thomas C. Dawson reached an agreement on 21

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23 February 1904, both in Morison, *Roosevelt Letters* 4: 734-35. The Dewey-Taylor-Loomis mission is described in Albert C. Gleaves, Diary, 1902-04, February 9 to March 7, 1904 entries in Box 3, Gleaves Papers, LC.

39. See Richard H. Collin, "The *Detroit* Compact of June, 1904: American Naval Diplomacy and Dominican Republic Revolutions," *Historian* 52 (May, 1991): 432-52; Challener, *Admirals, Generals, and American Foreign Policy*, 129-34; J. Fred Rippy, "The Initiation of the Customs Receivership in the Dominican Republic," *Hispanic-American Historical Review* 17 (1937): 419-57. For Roosevelt's decision not to intervene directly in 1904, see John Hay, conversation with Roosevelt, 28 March 1904, in Notes from the Dominican Legation, T801, Roll 3, NA, RG 59, and Hay to Roosevelt, 30 March 1904, cited in Rippy, "Initiation of Customs Receivership," 443. The *Detroit* Compact texts are in *FRUS*, 1904: 289-90.

40. For the effect of the Russo-Japanese War on the U.S. Navy, see Braisted, *The United States Navy in the Pacific*, 154-90; Challener, *Admirals, Generals, and American Foreign Policy*, 218-43; and Tyler Dennett, *Roosevelt and the Russo-Japanese War* (New York: The Macmillan Company, 1925).

41. For the Hague Court decision, see Calvin deArmond Davis, *The United States and the Second Hague Peace Conference* (Durham, NC: Duke University Press, 1976), 89.

January 1905 in which American control and supervision of the customhouses would end the civil wars fought to gain customhouse revenues. By reserving 55 percent of the customs revenues, the U.S. would liquidate the Dominican foreign debt. But Dillingham, who liked the Dominicans, agreed to enough of the Dominican demands to transform a simple financial agreement into a diplomatic protocol, thereby drawing the ire of the U.S. Senate which was convinced that Roosevelt had made a secret treaty to avoid the need for its consent. The agreement's terms, leaked in Santo Domingo to reassure nervous Dominicans that the U.S. was not seeking annexation, were telegraphed to New York and published three days before Acting Secretary of State Francis Loomis received the official text. Roosevelt's quick-fix became instead a major constitutional and political struggle with a Senate concerned with the erosion of its powers and eager to control activist presidents.[42]

When the Senate refused to ratify the agreement, Roosevelt initiated on 1 March 1905 a *modus vivendi*, a customs receivership through executive order. The *modus vivendi* continued the original American policy of naval and financial supervision and effectively removed the constant threats of civil war and European intervention. The Senate did not ratify the compromise Convention of 1907 until three years later. However, Dillingham's policy of maintaining friendly relations with most of the Dominican political factions (not just the elite business class in Santo Domingo) and the "moral presence" of the U.S. Navy, which continuously shuttled potential and failed revolutionaries to exile in Puerto Rico or Cuba, worked so well that the Dominican Republic ceased to be an international problem.[43]

By 1906 Germany had removed its cruiser squadron led by the *Falke* and *Panther* to Africa.[44] Britain ceased worrying about possible American seizure of Canada.[45] France was relieved by the Anglo-French entente of 1904 from the need to supervise constantly its minority fishing rights in Newfoundland and was content with the even-handed American supervision of French Caribbean interests. New Orleans increasingly became the preferred port for France's Caribbean warships, over Fort-de-France, Martinique. France's problems of naval intervention were underscored by its operational difficulties at Port-au-Prince, Haiti in 1903 and Venezuela in 1905, where the problems of coaling and waiting for a possible crisis involving naval action were insuperable.[46]

Theodore Roosevelt's use of the navy as a symbol of national prestige, brilliantly exemplified by the cruise of the Great White Fleet in 1907-1909, both understood and exploited the spirit of an age in which nationalism became the most enduring "ism" of the new century. Britain intervened in Venezuela over national outrage, not debt collection. French naval officers, without any imperial ambitions in the Caribbean, spent many hours writing about French cultural institutions in places like Cuba and Haiti.[47] Much of the Dominican imbroglio was complicated by conflicting claims of several European countries, including Italy and Belgium, claims which, like the German and British claims in Venezuela, had been ignored before 1900. Roosevelt's use of the navy as the policeman of the Caribbean offended Latin Americans in the same degree

42. John Hay to Thomas Dawson, 30 December 1904; Dawson to Hay, 2 January, Hay to Dillingham, 5 January 1905, in *FRUS*, 1905: 298-305; Albert C. Dillingham, "Intervention of the United States Government in the Affairs of the Republic of Santo Domingo," Subject File OH, Box 381, NA, RG 45. The texts and correspondence are in *FRUS*, 1905: 306-53. See also Holt, *Treaties Defeated by the Senate*, 206-19, and MacMichael, "The United States and the Dominican Republic," 173-91.

43. Collin, *Theodore Roosevelt's Caribbean*, 409-62; Lester Langley, *The Banana Wars: An Inner History of American Empire, 1900-1934* (Lexington, KY, 1983), 27-33; Holt, *Treaties Defeated by the Senate*, 226-29. For the success of the *modus vivendi*, see *FRUS*, 1907: 345-47; Roosevelt to Henry Cabot Lodge, 30 April 1906, in Morison, *Roosevelt Letters* 5: 255.

44. Herwig, *Germany's Vision of Empire in Venezuela*, 170.

45. Samuel F. Wells, Jr., "British Strategic Withdrawal from the Western Hemisphere, 1904-06," *Canadian Historical Review* 49 (1968): 335-66; Peter Neary, "Grey, Bryce, and the Settlement of Canadian-American Differences, 1905-1911," *Canadian Historical Review* 49 (1968): 357-80; Jon Tetsuro Sumida, *In Defence of Naval Supremacy: Finance, Technology, and British Naval Policy, 1889-1914* (Boston: Unwin Hyman, 1989), esp. 3-51.

46. See Mission du *Troude*, 1901-1906 in BB^4, 1623. For the *Jurien de la Graviere*'s difficulty in staying for five days at Puerto Plata, D.R., and its need to borrow 210 tons of coal from the U.S. at San Juan, see Captain Lemogne to Ministre de la Marine (hereafter MM), 10 February 1904, and Boue Lapeyrere to MM, 20 December 1904, BB^4, 1679. For the inadequacies of Fort-de-France for warship maintenance see Contre-Amiral Rivet to MM, 10 October 1904, one of the frequent requests to proceed to New Orleans for extended repairs, BB^4, 1679. For the *Tage*'s twenty-day visit to New Orleans' Mardi Gras, where the officers were guests at the French Opera House and the *Tage*'s fire brigade helped put out a fire in New Orleans, see Rivet to MM, 8 February 1903, BB^4, 1667. For the difficulties of staying in foreign ports while awaiting the resolution of a crisis, see Lapeyrere to MM, 27 January 1906, in BB^4, 1703, all AMCV. See also Ropp, *Development of a Modern Navy*, 352, 355-59.

47. Rivet to Etat Major General, Movements de la Flotte, 15 January 1903, has a detailed account of Madame La Violette's school in Havana — exclusively French and the best in the city, in BB^4, 1667, AMCV.

it reassured Europeans, both equally sensitive (as were Colombia and the United States regarding Panama) to national slights.[48] Panama's separation from Colombia was doubly painful to Colombia, which transformed its anguish into hatred of Theodore Roosevelt.[49]

Nonetheless, the United States, helped by European attention to Asia, the European naval race, and new alignments in Europe and Africa, succeeded in convincing Europe that the Caribbean was out of bounds for European national rivalries or expansion. Even as late as 1906, it was still possible for Spain to suggest a concert of Europe against the new American intervention in Cuba. Lord Acton, the British Minister at Havana, rejected such a notion our of hand. Besides, he pointed out, the Americans were, astonishingly, supporting the rebels, not the government.[50] Although such an even-handed Caribbean policy did not survive Roosevelt's presidency, the withdrawal of Europe served at the time to end the chance of an accidental war in the Caribbean nations. Central America and Cuba — potential American Balkans — remained a problem, but one uncomplicated for a time by European naval or diplomatic rivalries.

48. Luis M. Drago to John Hay, 29 December 1902, *FRUS*, 1903: 1-5. The Drago Doctrine — no forced collection of Latin American debts — contained in the Argentine Minister's letter to Hay, triggered by the Anglo-German intervention in Venezuela, marked a brief ideological (and diplomatic) alliance between the Drago and Monroe Doctrines. Neither Latin America nor Argentina fully supported Drago's Doctrine. See Dennis, *Adventures in American Diplomacy*, 292-94, 299, 301; Donald Shea, *The Calvo Clause: A Problem of Inter-American and International Law and Diplomacy* (Minneapolis: University of Minneapolis Press, 1955), 16-21; Phillip Jessup, *Elihu Root*, 2 vols. (New York: Dodd, Mead, and Company, 1938), 1: 482, 485-6; 2: 73-5, 91.

49. Joseph L. Arbena, "The Image of an American Imperialist: Colombian Views of Theodore Roosevelt," *West Georgia Studies in the Social Sciences* 6 (June, 1967): 3-20.

50. The American intervention in Cuba of September 1906 is described in the Taft-Bacon Report, *House Documents*, 59th Cong., 2nd Sess., No. 2, Serial 5105: 444-542. Lord Acton to Sir Edward Grey, 7 September 1906; Acton to Grey, No. 31949, 24 September 1903; Situation paper No. 32753, 27 September 1906, FO 371/56, PRO.

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The Crusade of Emperor Frederick II, 1220-29: The Implications of the Maritime Evidence

JOHN H. PRYOR

Historians have long recognized that the negotiated success of the Crusade of Emperor Frederick II is so problematical that it calls for unusual explanation. Without engaging the emperor's forces in more than a minor skirmish, the Egyptian sultan al-Kāmil ceded Jerusalem, the city of Sidon, the castle of Toron, other Holy Places, and a corridor to the coast to the Christians in 1229.[1] It has recently been argued convincingly that in actuality al-Kāmil gave up very little, since Jerusalem was a defortified ruin and most of the other places ceded belonged *de jure* to his nephew an-Nāṣir Dā'ūd of Damascus. Nevertheless, the terms of the treaty with the Christian emperor brought universal opprobrium upon al-Kāmil's head from throughout the Muslim world.[2] What was it that induced al-Kāmil to grant the concessions that he did to Frederick, who, we are told, had come on Crusade with only a small army which could pose little threat to the sultan's forces?

On this point, the claims of Gerald of Lausanne, the Latin Patriarch of Jerusalem, and of other contemporary sources have generally been accepted by modern scholars. Various explanations of al-Kāmil's actions include Frederick's skill at diplomacy, his empathy with Muslim culture and a meeting of like minds, and al-Kāmil's political difficulties with his brothers al-Ashraf Mūsâ, the ruler of the Jazira, and al-Mu'aẓẓam 'Īsâ of Damascus, the latter succeeded by his son an-Nāṣir Dā'ūd late in 1227.[3] No one would wish to discount completely the influence of these factors on the negotiations between Frederick and al-Kāmil which led to the treaty of peace. The political difficulties within the Ayyubid sultanate, and in particular al-Kāmil's ambition to translate his own honorific status as head of the family and sultan into a practical hegemony, were clearly important factors. Every explanation, however, lacks real conviction. It is almost as though the various authorities, both the contemporary chroniclers and modern historians, cannot quite believe their own suggestions. Given the nature of the concessions made by al-Kāmil and their consequences for his own political and religious stature within the *dār al-Islām* and the Muslim *ummah* respectively, none of the accepted explanations commands real authority. There may have been another factor at play, however, the importance of which historians have not appreciated: the naval logistics of Frederick's Crusade.

I am indebted to my colleague, Associate Professor Ahmad Shboul, for his assistance with the Arabic sources used in this study. I would also like to thank Professors Yaacov Lev and Louise Robbert for reading a preliminary draft and for their comments and suggestions. A draft of this paper was read at the meeting of the Medieval Academy of America at Princeton University in April, 1991. I would like to thank the Academy, and in particular Professor James A. Brundage, for the invitation to present it there.

1. The most detailed discussion of the terms of the treaty of Jaffa is contained in the recent thesis by K. R. Giles, *The Emperor Frederick II's Crusade 1215-c.1231* (Ph.D. diss., Keele University, 1987), 161-215.

2. Ibid., 234ff. For the contemporary view, see Al-Maqrīzī, *Histoire d'Egypte de Makrizi*, trans. E. Blochet, in *Revue de l'Orient latin* 9 (1902): 6-163, 260-530, here 526 (hereafter cited as *ROL*); al-Aini, *Extraits du livre intitulé le Collier de Perles*, in *Recueil des historiens des Croisades, Historiens Orientaux* (Paris, 1872-1906), 2, pt. 1: 187 (hereafter cited as *RHC HOr.*); Abū-Shāmah, *Le livre des deux jardins*, *RHC HOr.* 5:186; Ibn-al-Athīr, *Extrait de la chronique intitulée Kamel-Altevarykh*, *RHC HOr.* 2, pt. 1: 176; Ibn Wasil, *Mufarrij al-Kurūb fī akhbar bani Ayyūb*, trans. F. Gabrieli, in *Arab Historians of the Crusades* (London, 1984), 271; Sibt ibn al-Jauzi, *Mir'āt az-zamān*, in Gabrieli, *Arab Historians*, 273-5.

3. See D. Abulafia, *Frederick II: A Medieval Emperor* (London, 1988), 181-94; T. C. van Cleve, "The Crusade of Frederick II," in K. M. Setton, ed., *A History of the Crusades* (Madison, WI, 1969), 2: 429-62, here 448-56; W. B. Stevenson, *The Crusaders in the East* (Beirut, 1907), 310-12; S. Runciman, *A History of the Crusades* (Harmondsworth, 1965), 3: 184-6; J. Prawer, *Histoire du royaume latin de Jérusalem* (Paris, 1975), 2: 193-8; R. S. Humphreys, *From Saladin to the Mongols: The Ayyubids of Damascus, 1193-1260* (Albany, NY, 1977), 202-4; H. L. Gottschalk, *Al-Malik al-Kāmil von Egypten und seine Zeit* (Weisbaden, 1958), 152-60; N. Barbour, "The Emperor Frederick II, King of Jerusalem and Sicily, and His Relations with the Muslims," in J. M. Barral, ed., *Orientalia Hispanica sive studia F. M. Pareja octogenario dicata* (Leiden, 1974), 1: 77-95, here 84-5.

The maritime aspect of Frederick's Crusade has been addressed only in passing. Because the Crusade eventually went to Palestine, where operations were conducted by land, its naval logistics have not been considered important except insofar as transportation and supply of the forces was concerned. No attention has been paid to the types of ships that Frederick used and to the possible significance of his choice of ship types. According to the *Annales Colonienses maximi*, however, when the initial plans for the Crusade were made in 1224, the fleet was expressly designed for an amphibious operation up the Nile from Damietta, indicating that that was the planned destination.[4] There is no reason to doubt the evidence of the Cologne annals, since in other details concerning the Crusade, especially the agreement of San Germano of July 1225 between Frederick and Pope Honorius III, they agree with the other sources: Richard of San Germano, Matthew Paris, and Frederick's own letters of 5 March 1224 and 6 December 1227.[5]

If the destination originally contemplated was Egypt, by 1227 Frederick had changed his mind and had decided to confront al-Kāmil in Palestine. The probable reason for his decision was that, on 9 November 1225, he had married Isabella of Brienne, the daughter of King John and heiress to the Kingdom of Jerusalem. His actions during the Crusade, both in Cyprus and on the mainland, indicate clearly that by then he intended to make use of the Crusade to assert his right to rule in the Holy Land.[6] However, this change of sphere of operations did not involve any change in the composition of the fleet. Frederick's fleet at Acre and Jaffa in 1228-29 was one designed for operations up the Nile River, and this fact may have had important consequences during the negotiations between Frederick and al-Kāmil that led to the treaty of peace.[7]

4. *Annales Colonienses maximi*, in *Monumenta Germaniae historica. Scriptores* (hereafter cited as *MGH SS)* 17:723-847, here 837: ". . . si opus fuerit, erectis velis intrare possint flumen Damiate vel aliud aliquod flumen."

5. Richard of San Germano, *Chronica*, *MGH SS* 19: 344-5; Matthew Paris, *Chronica majora*, in *Rerum Britannicarum medii aevi scriptores* (hereafter cited as *Rolls Series)* 57 (London, 1872-84), 3: 148; J. B. Huillard-Bréholles, *Historia diplomatica Frederici secundi* (Paris, 1859-61), 2, pt. 1: 501-3.

6. See Giles, *Emperor Frederick II's Crusade*, 25-6.

7. This is contrary to what I wrote in 1982. See J. H. Pryor, "Transportation of Horses by Sea During the Era of the Crusades: Eighth Century to 1285 A.D.," *The Mariner's Mirror* 68 (1982): 9-27, 103-25, here 24.

The Crusade of 1221

Frederick began making plans to go on Crusade in 1219. Perhaps as early as October of that year, he called on the port cities of south Italy to provide ships for the Crusade.[8] In July 1220, Count Matthew of Apulia arrived at Damietta with eight galleys, of which two were Muslim corsair galleys captured en route.[9] By December 1220, Honorius III could notify the papal legate, Cardinal Pelagius, that Frederick had pledged to send part of his army in March 1221 and to go personally in August.[10] In a circular letter of 10 February 1221, Frederick ordered galleys and sailing ships, *"galeae et naves,"* to be prepared in the ports of the Kingdom of Sicily.[11] Duke Louis of Bavaria, Bishop Ulrich of Passau, and other imperial Crusaders under Frederick's orders left Brindisi in April 1221 and arrived at Damietta in May.[12] Louis of Bavaria had authority to act in the emperor's name until his arrival in person.[13] The number of troops and the type of ships sent at this time are unknown. In 1227 Frederick was to claim that he had instructed the Crusaders at Damietta to await his own arrival and not to move from Damietta until then.[14] Under the baleful influence of Cardinal Pelagius, however, the Crusaders ignored his advice and began the march to Mansurah on 17 July, with catastrophic consequences.

8. See Thomas of Capua, *Dictator epistolarum*, in S. F. Hahn, *Collectio monumentorum veterum et recentium ineditorum ad codicem fidem restitutorum selectionum et rariorum*, 2 vols. (Brunswick, 1724-26), 1: 279-385, here 361. The text is contained in an *exemplum* letter which has no protocol and is undated. It is dated to 1219 by Röhricht on unknown grounds. See R. Röhricht, *Beiträge zur Geschichte der Kreuzzüge*, 2 vols. (Berlin, 1874-8), 1:7.

9. Oliver of Paderborn, *Historia Damiatina*, in H. Hoogeweg, ed., *Die Schriften des Kölner Domscholasters, späteren Bischof von Paderborn und Kardinal-Bischof von S. Sabina*, Bibliothek des litterarischen Vereins in Stuttgart (Tübingen, 1884), 202, c. 44: 249; Jacques de Vitry, *Lettres de Jacques de Vitry (1160/1170-1240), évêque de Saint-Jean-d'Acre*, ed. R. B. C. Huygens (Leiden, 1960), 136. See also W. Cohn, *Die Geschichte der sizilischen Flotte unter der Regierung Friedrichs II (1197-1250)* (Breslau, 1926), 20.

10. Huillard-Bréholles, *Historia diplomatica* 2, pt. 1: 82-3.

11. Ibid., 122.

12. Oliver of Paderborn, *Historia Damiatina*, c. 54: 257; Huillard-Bréholles, *Historia diplomatica*, 3:40; Ralph of Coggeshall, *Chronicon Anglicanum*, *Rolls Series* 66 (London, 1875), 189; letter of Peter of Montaigu in Roger of Wendover, *Flores historiarum*, *Rolls Series* 84 (London, 1886-9), 2:264. See also Cohn, *Geschichte der sizilischen Flotte*, 22.

13. See Giles, *Emperor Frederick II's Crusade*, 18.

14. Huillard-Bréholles, *Historia diplomatica*, 3:40. Cf. Jacques de Vitry, *Lettres*, 150.

Frederick sent further reinforcements to Damietta under his Chancellor, Walter of Palear, Marshall Anselm of Justingen, and Admiral Henry Pescatore, Count of Malta. They arrived at the end of August. Oliver of Paderborn, Marchisius Scriba of Genoa, and Frederick's encyclical letter of 1227 all state that these reinforcements consisted of forty galleys.[15] The fleet arrived too late to prevent the capitulation of the Crusader army on 30 August, but there are some interesting points to note about it. First, why did Frederick send reinforcements on a fleet of war galleys? The Crusaders held Damietta at the time that the fleet set out; therefore, he could have used sailing ships, which could carry far greater numbers of troops far more economically than galleys. Galleys were notoriously inefficient as transports. They had little spare cargo capacity and were expensive because of the need to pay large numbers of oarsmen. If the fleet was intended only to carry troops to the army, sailing ships would have been far more efficient. Second, although most of the sources say that the representatives of the defeated Crusaders returned to Damietta and there persuaded those in the city, including Walter of Palear and Henry Pescatore, to accept the surrender, the encyclical letter of Frederick II of 1227 says that Count Henry took the fleet up river and was met en route by the army's representatives. In other words, Henry took the fleet up river even though he knew that the Egyptians now controlled it. Oliver of Paderborn also reports that some of those in the army expected the imperial fleet to relieve them, even though control of the river had been lost to the Egyptians.[16] This confirms that the fleet was a war fleet. Finally, Richard of San Germano reports that Frederick was so incensed by the outcome of the Crusade, and by the conduct of Walter of Palear and Henry Pescatore in agreeing to the capitulation of the army and the surrender of Damietta, that Walter fled to Venice while Henry was imprisoned upon his return to Sicily and his fiefs were confiscated.[17] Louis of Bavaria, who had the authority of the emperor but who actually supported the march up river against his wishes,[18] apparently escaped Frederick's ire; at least, there is no mention of it in the sources. However, Louis returned to Germany, well away from Frederick's reach at the time.

Only one explanation fits the scenario. The fleet sent under Walter of Palear and Henry Pescatore was a battle fleet designed specifically to hold the river while the army followed it upstream. Frederick had apparently realized that the naval forces at Damietta were composed of a miscellaneous collection of ships from all over Europe on which the various Crusader contingents had reached Egypt. They were the wrong types of ships for the task of holding the river against Egyptian naval forces, and Frederick had acted to remedy the situation. That is why he was so insistent that the army not move until he arrived himself, or at least until he gave the word to move. No doubt Walter of Palear and Henry Pescatore were carrying with them the emperor's permission for the army to move. The fleet under Henry Pescatore was a battle fleet and did not carry reinforcements as such. That is why Count Henry did not fear to move up river against the Egyptian forces and why Frederick was so furious when he and Walter of Palear failed to accomplish their mission. Had the fleet merely been carrying reinforcements to the army at Damietta, there could be no explanation for Frederick's displeasure with his commanders. They had accomplished that mission. But Frederick had had far more ambitious plans than that. He had hoped to fulfill his Crusading vows in 1221 by means of a successful outcome to the Fifth Crusade. He had known exactly what he was doing and had acted to supply a battle fleet which would give the Crusaders at Damietta the best possible chance of success in marching on Cairo. He seems to have planned to wait until initial success had been achieved before making his own triumphant arrival. Since his orders were not obeyed, however, he would have to do it all over again.

15. L. T. Belgrano and C. Imperiale, eds., *Annali genovesi di Caffaro e de' suoi continuatori* (Rome, 1890-1929), 2:178; Oliver of Paderborn, *Historia Damiatina*, c. 80: 277; Huillard-Bréholles, *Historia diplomatica*, 3:40-41. See also the letter of Peter of Montaigu in Roger of Wendover, *Flores historiarum*, 2:265. See also Cohn, *Geschichte der sizilischen Flotte*, 23-4, 100. Cohn emphasizes, with justification, that the equipping of this fleet was a major undertaking which probably exhausted the remaining naval resources of the Kingdom of Sicily.

16. Oliver of Paderborn, *Historia Damiatina*, c. 73: 270. Cf. Huillard-Bréholles, *Historia diplomatica*, 3:41; Richard of San Germano, *Chronica*, 341; Roger of Wendover, *Flores historiarum*, 2:264; Anonymous of Tours, *Ex chronico Turonensi auctore anonymo S. Martini Turon. canonico*, in *Recueil des historiens des Gaules et de la France* (hereafter cited as *RHGF)* 18 (Paris, 1879), 302. See also Cohn, *Geschichte der sizilischen Flotte*, 24, 100-101.

17. Richard of San Germano, *Chronica*, 341. See also Cohn, *Geschichte der sizilischen Flotte*, 101, and D. Abulafia, "Henry Count of Malta and his Mediterranean Activities: 1203-1230," in A. T. Luttrell, ed., *Medieval Malta: Studies on Malta before the Knights* (London, 1975), 104-25, here 121-2. Both Cohn and Abulafia suggest the possibility of supplementary reasons for Henry's temporary disgrace. In my opinion, neither is convincing.

18. Oliver of Paderborn, *Historia Damiatina*, c. 54: 257; letter of Peter of Montaigu in Roger of Wendover, *Flores historiarum*, 2:264.

THE CRUSADE OF LOUIS IX, 1246-49

To understand the difficulty of an amphibious assault up the Nile River, it is instructive to look at the later Crusade of King Louis IX of France. Almost thirty years after the failure of the Fifth Crusade, Louis went to the Nile with a new Crusade and repeated the crucial error of 1221. In spite of the extensive preparations for the Crusade which Louis had made since he took the cross,[19] there is no doubt that from a technological point of view his forces were abysmally ill-equipped for a campaign in the Nile delta.

The known details of Louis' naval forces are as follows. In March 1246, he had contracted with the Genoese to lease twenty-eight two-decked, two-masted sailing ships and to build another two slightly smaller ones.[20] The names of many of the individual contractors are known.[21] At the same time, he asked Genoa to build three three-decked, two-masted sailing ships.[22] He also ordered from six Genoese shipbuilders twenty oared transport galleys, or *taride*, equipped with stern-quarter ports for landing mounted knights directly onto beaches,[23] and he reserved the right to obtain galleys wherever he could find them in Pisa, Genoa, and Marseilles.[24] In August 1246 he ordered twenty three-decked sailing ships and ten galleys from Marseilles.[25] In October 1246 he contracted with Genoa to lease another sixteen two-decked, two-masted sailing ships.[26] At Genoa in 1248, various shipowners and shipbuilders contracted to build, lease, or supply to Louis' admirals, Ugone Lercario and Giacomo di Levante, three galleys, two *taride*, and nine sailing ships, five of which are known by name: the *Sanctus Spiritus*, the *Sanctus Franciscus*, the *Paradisus*, the *Damixella*, and the *Lombarda*.[27] The nine sailing ships were most likely among those ordered from Genoa in 1246,[28] but the two *taride* and three galleys were not. Various nobles going on the Crusade leased ships at Marseilles privately for their own transportation. All of these vessels that have been identified were sailing ships.[29] Some other nobles, such as the Count of St. Pol, commissioned ships in northern Europe, and these must also have been sailing ships.[30] When he reached Cyprus, Louis received reinforcements from the princes of the East, including twenty-four galleys and sailing ships under William of Villehardouin, Prince of Achaea.[31] Jean de Joinville also reports the presence at Damietta later on of a galley of John of Ibelin, Count of Jaffa, and of a *"maistre galie"* or "flagship" of the Templars' galleys. The Order apparently had more than one galley at Damietta.[32] We can probably assume that the Hospitallers also had ships or galleys at Damietta, although there is no evidence for this.

It is doubtful that all of the ships contracted for in 1246 actually materialized at Damietta in 1249. The figures from the various sources suggest, however, that Louis may have had up to seventy-three sailing ships, twenty-two *taride*, and five or more galleys, plus the twenty-four galleys and sailing ships of William of Villehardouin. There were, no doubt, other ships of which we do not have direct knowledge. No matter how debatable the figures may be, however, they indicate clearly that Louis' fleet was severely unbalanced and poorly designed for amphibious operations in Egypt. The letter of Louis' chamberlain, Jean de Beaumont, written at Damietta shortly after its capture by the Crusaders, numbers the fleet which left Cyprus at 120 *magne naves* but only eighty *minora vasa;* that is, 120 large sailing ships but only eighty small boats, galleys, and *taride*.[33] In

19. See W. C. Jordan, *Louis IX and the Challenge of the Crusade: A Study in Rulership* (Princeton, 1979).

20. L. T. Belgrano, *Documenti inediti riguardanti le due crociate di San Ludovico IX, re di Francia,* (Genoa, 1859), doc. 1, pp. 13-18.

21. Ibid., 18-19.

22. Ibid., 5-13.

23. Ibid., 19-25.

24. Ibid., 25. Galleys from Genoa are also referred to in the *Annales januenses* for 1248. See Belgrano and Imperiale, *Annali genovesi* 3:179.

25. A. Jal, "Pacta naulorum des années 1246, 1268 et 1270," in M. Champollion-Figéac, *Documents historiques inédits* (Paris, 1841-48), 1: 605-9.

26. L. T. Belgrano, "Une charte de nolis de S. Louis," *Archives de l'Orient latin* 2 (1884): 232-6. These sixteen sailing ships are no doubt those reported in the *Annales januenses* under the year 1246. See Belgrano and Imperiale, *Annali genovesi* 3:168.

27. Belgrano, *Documenti*, docs. 5, 6, 13-16, 19, 22, 26, 27, 30, and Aggiunta 24bis.

28. For example, in 1246 Louis contracted with Nicolaus de Aurea to build a *navis* for £4,000 Tours. On 30 May 1248 he sold his ship, the *Paradisus*, to the king's admirals for £3147.10.0. See Belgrano, *Documenti*, doc. 19.

29. L. Blancard, ed., *Documents inédits sur le commerce de Marseille au moyen-âge* (Marseilles, 1884-5), 2, pt. 2, docs. 549, 777, 878.

30. Matthew Paris, *Chronica majora*, 5:93.

31. Marino Sanudo Torsello, *Istoria del regno di Romania* in C. Hopf, ed., *Chroniques Gréco-Romanes* (Paris, 1873), 102. The arrival of William of Villehardouin in Cyprus is also reported by Vincent of Beauvais, Johannes de Columna, and William of Nangis, but none of these gives the number of his ships.

32. Jean de Joinville, *Histoire de Saint Louis*, ed. N. de Wailly, 12th ed. (Paris, n.d.), §§158-60, pp. 67-8, §383, pp. 159-60.

33. P. Riant, ed., "Six lettres relatives aux Croisades," *Archives de l'Orient latin* 1 (1881): 383-92, here 389. See also the letter of Guy, a knight of the household of the Viscount of Melun, in Matthew Paris, *Chronica majora* 6, no. 81, p. 156, and no. 83, p. 163.

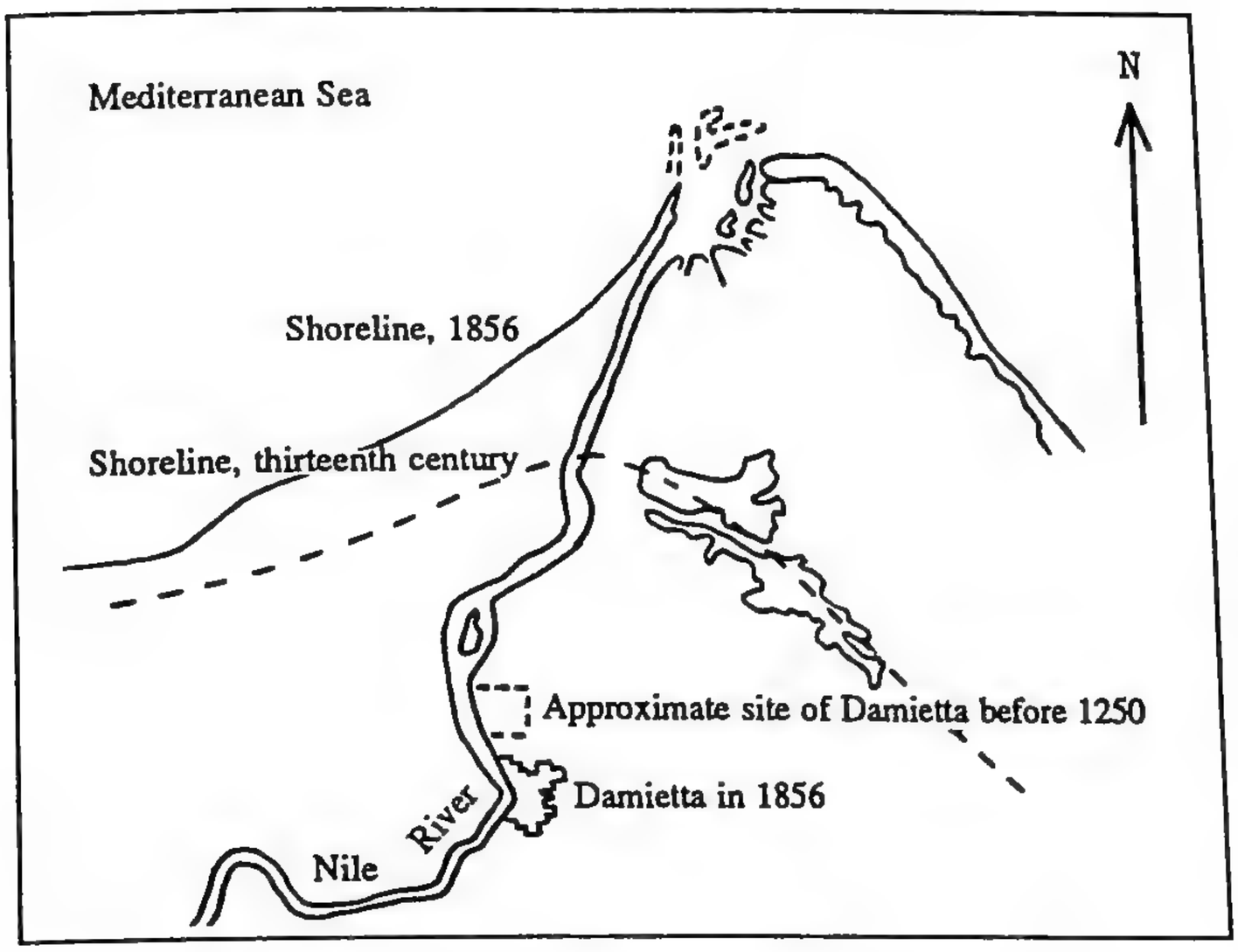


Figure 1: The shoreline of the Damietta branch of the Nile in the thirteenth century. Map based on Admiralty chart 2573, survey of 1856. Shoreline (——) based on Y. Kemal, *Monumenta cartographica Africae et Aegypti*, tome 3, fasc. 4 (Cairo, 1934), 943, and J. M. Powell, *Anatomy of a Crusade 1213-1221* (Philadelphia, 1986), 129, fig. 7.1.

Cyprus, over the winter of 1248-49, Louis apparently realized that his fleet was unsuitable for the conditions in which it would have to operate, and he undertook a program of construction of small boats, *parva vassella*, to be used as assault craft. He also sent to Acre and to other maritime localities in the East trying to lease ships and *vassella*. Vincent of Beauvais reports that the Genoese and Venetians in those places wanted extortionate prices for their ships.[34]

The fleet that eventually arrived off Damietta may have been even more unbalanced than that which was finally assembled at Cyprus. After having weighed anchor from Limassol, the fleet was hit on Whitsunday by a southerly storm which scattered it across the eastern Mediterranean.[35] The storm was probably a *khamsin*. Such a storm would have had a far more severe impact on the low-lying galleys, *taride*, and small boats than it would have had on the high-sided sailing ships. Many of the former may well have been sunk.[36]

In Cyprus, Louis had tried to remedy the structural deficiencies of a fleet of which a major part could not operate in shallow water. There he must have learned that the Damietta branch of the Nile was narrow and shallow and that the approach to the mouth of the river was strewn with shallows and sandbanks. His large sailing ships would not be able to approach close to the shore to offload their troops. Marino Sanudo Torsello said that, for each mile out to sea, the depth increased by only one *passus* (1.75 meters) between Alexandria and Damietta.[37] In fact it varied quite a lot, according to English and French nautical charts of 1856 and 1864.[38] Nevertheless, there were, and still are, extensive banks off Damietta.[39] The shoreline in the thirteenth century was not where it is now or was in the nineteenth century.[40] (See figure 1 above.) It was some distance inland. But the general

34. Vincent of Beauvais, *Speculum historiale* (Douai, 1624), lib. 31, c. 96: 1318-19. Cf. Johannes de Columna, *E mari historiarum*, *RHGF* 23 (Paris, 1894), 106-24, here 119.

35. Joinville, *Histoire de Saint Louis*, §147, p. 63; letter of Guy, the knight of the Viscount of Melun, in Matthew Paris, *Chronica majora* 6, no. 81, p. 156.

36. See J. H. Pryor, *Geography, Technology, and War: Studies in the Maritime History of the Mediterranean, 649-1571* (Cambridge, 1988), 38, 69-70, 121.

37. Marino Sanudo Torsello, *Liber secretorum fidelium crucis super Terrae Sanctae recuperatione et conservatione* (Hanover, 1611), lib. 2, pt. 4, c. 25, p. 87.

38. Cambridge University Library. Maps 719.01.2573 (Admiralty chart 2573, survey of 1856, ed. of 1883); Maps 723.01.2143 (Paris, 1864).

39. Great Britain, Admiralty, Hydrographic Office, *Mediterranean Pilot*, 6th ed. (London, 1976), 5: 76-8.

40. See J. M. Powell, *Anatomy of a Crusade 1213-1221* (Philadelphia, 1986), 138-9, n. 9. See also al-Maqrīzī, *Narratio de expeditionibus a Graecis, Francisque adversus Dimyatham, A.B. A.C. 708 A.D. 1221 susceptis*, ed. H. A. Hamaker (Amsterdam, 1824); O. Toussoun, "Mémoire sur les anciennes branches du Nil: époque Arabe," *Mémoires de l'Institut d'Egypt*, 4, 2° fasc. (1923): 93-143. A. R. Guest, "The Delta in the Middle Ages," *Journal of the Royal Asiatic Society of Great Britain and Ireland* (1921): 941-90, which might be expected to be useful on these problems, in fact adds nothing.

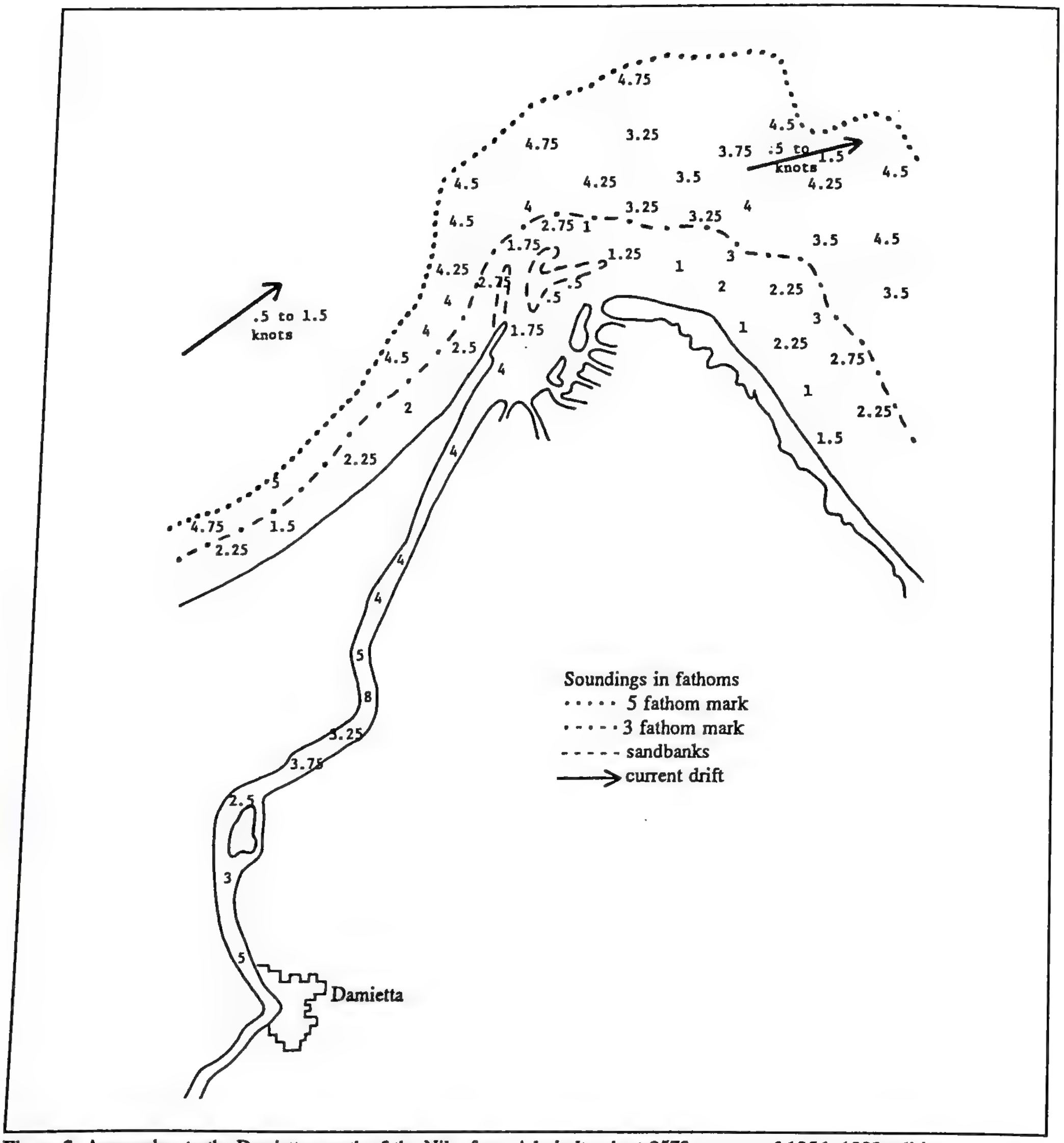


Figure 2: Approaches to the Damietta mouth of the Nile, from Admiralty chart 2573, survey of 1856, 1883 edition.

conditions which give rise to the shallows offshore were the same then. Sand and silt brought down by the river during the annual floods spewed out into the sea and was swept east by the circulation of the Mediterranean current. Consequently, the water was shallower to the east of the mouth of the river than to the west. (See figure 2 above.) Not surprisingly, the forces of both the Fifth Crusade and Louis' Crusade landed on the west bank of the river, opposite the town, because there the water offshore was at least a little deeper.

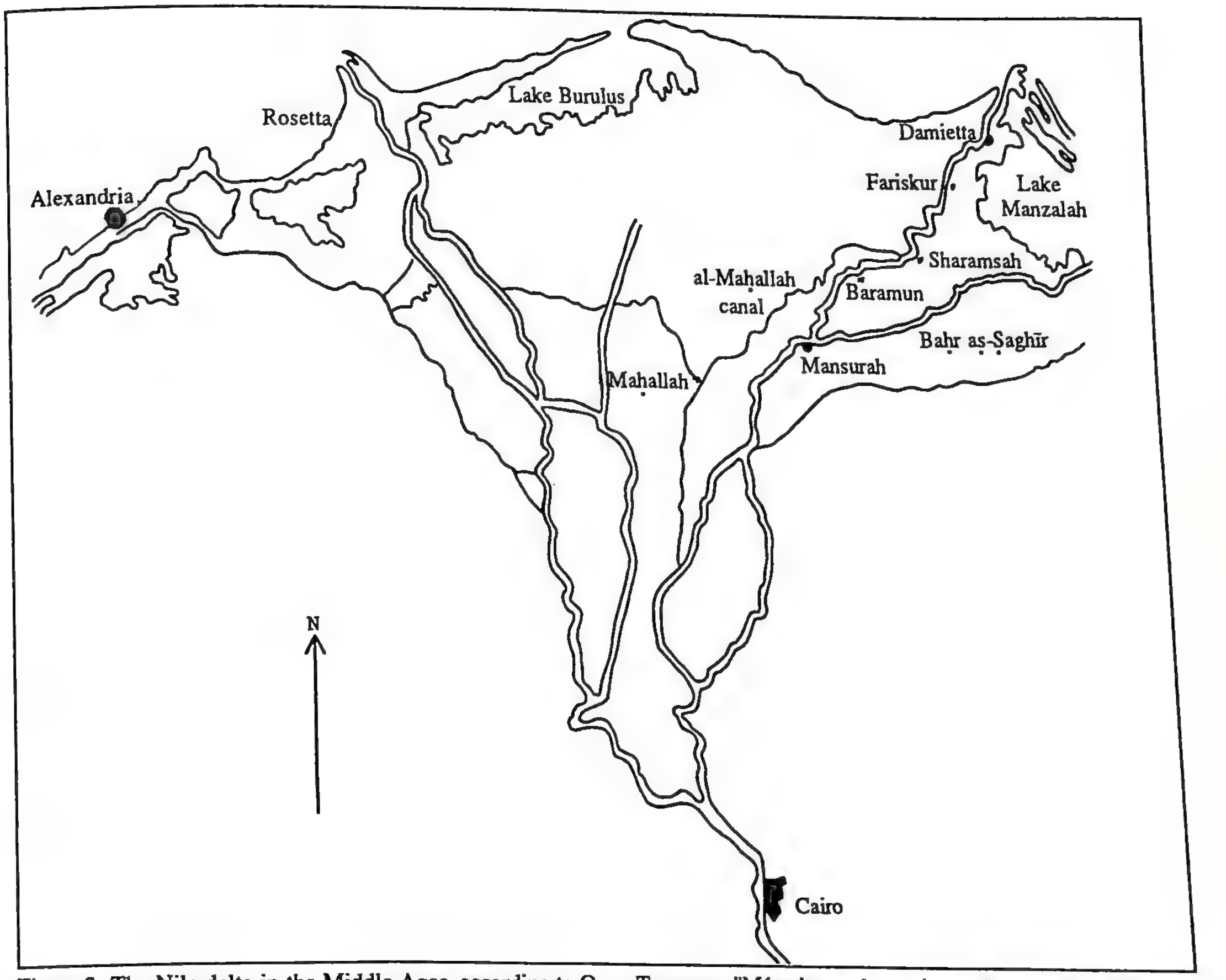


Figure 3: The Nile delta in the Middle Ages, according to Omar Toussoun, "Mémoire sur les anciennes branches du Nil: époque Arabe," *Mémoires de l'Institut d'Egypt*, 4, 2° fasc. (1923).

Large sailing ships of the type ordered by Louis from Genoa and Marseilles in 1246 drew some three meters of water when laden.[41] Even to the west of the mouth of the river, such ships could not approach close to the shore. Jean Sarrasin reported that Louis anchored the fleet some three leagues (6.75 kilometers) from shore and that the landing was made by galleys and small boats.[42] No wonder that Joinville was so anxious to lay his hands on a royal galley for the landing, that the landing by ships' boats, *barge de c[h]antiers*, was so chaotic, and that Joinville so admired the landing craft galley of the Count of Jaffa.[43] Even the ships' boats and the *vassella* built in Cyprus were not really suitable for the operation. They grounded so far out that the king went in up to his chest when he went overboard.[44]

Louis' army occupied Damietta in the first week of June 1249. From there, it faced the logistical problems of an advance up river to Mansurah and then Cairo. The Damietta branch of the river was narrow. (See figure 3 above.) Yaqut ibn 'Abd-Allāh al-Hamawi and Zakarīyā

41. J. H. Pryor, "The Naval Architecture of Crusader Transport Ships: A Reconstruction of Some Archetypes for Round-hulled Sailing Ships," *The Mariner's Mirror* 70 (1984): 171-219, 255-73, 363-86, here 189 (fig. 5) and 192.

42. Jean Sarrasin, *Lettre à Nicolas Arrode*, ed. A.E. Foulet, in *Les classiques de l'histoire de France au moyen-âge*, no. 43 (Paris, 1924), §7, p. 3.

43. Joinville, *Histoire de Saint Louis*, §§150-8, pp. 64-7.

44. Jean Sarrasin, *Lettre à Nicolas Arrode*, §9, p. 5; Joinville, *Histoire de Saint Louis*, §162, p. 68.

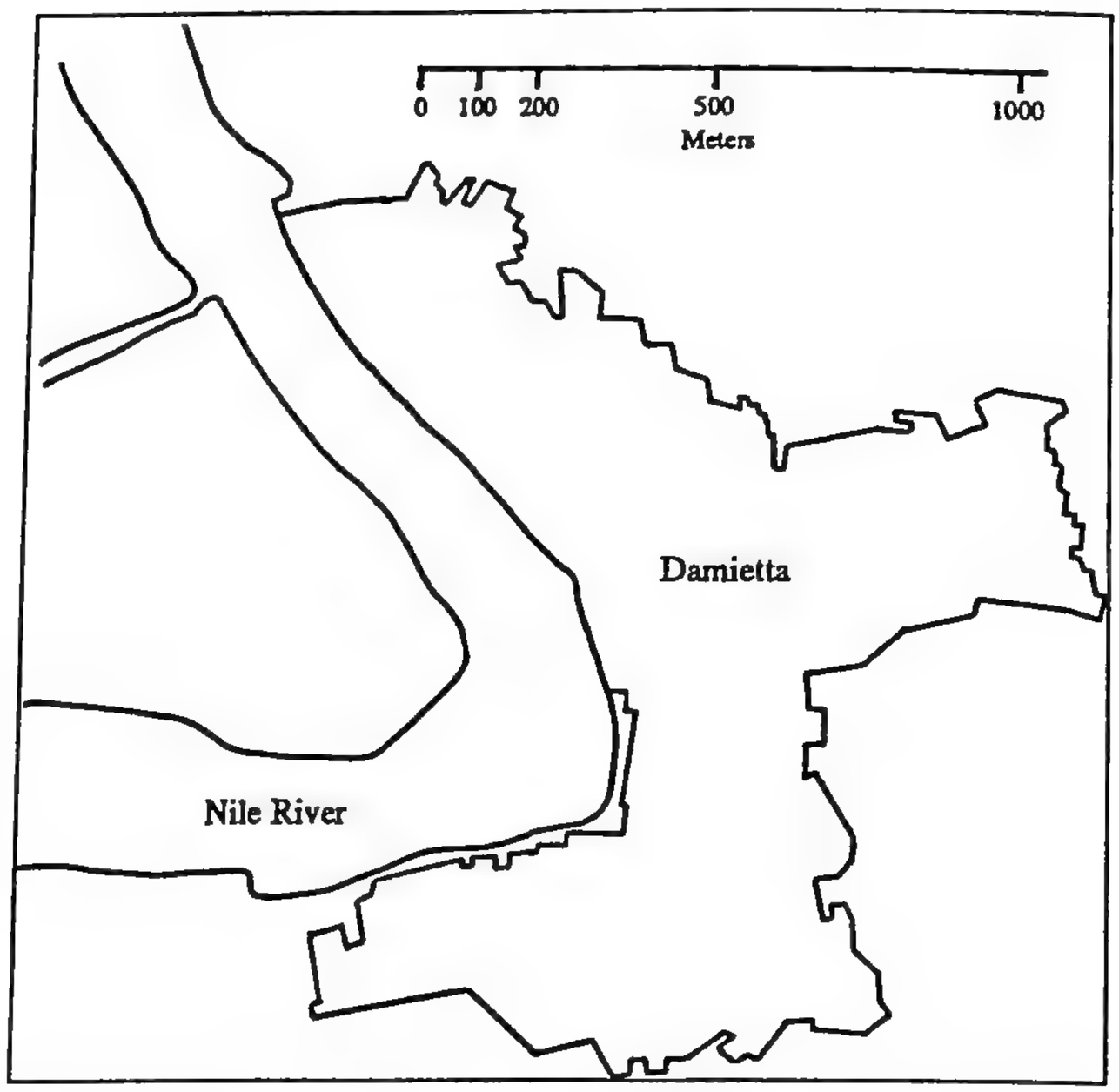
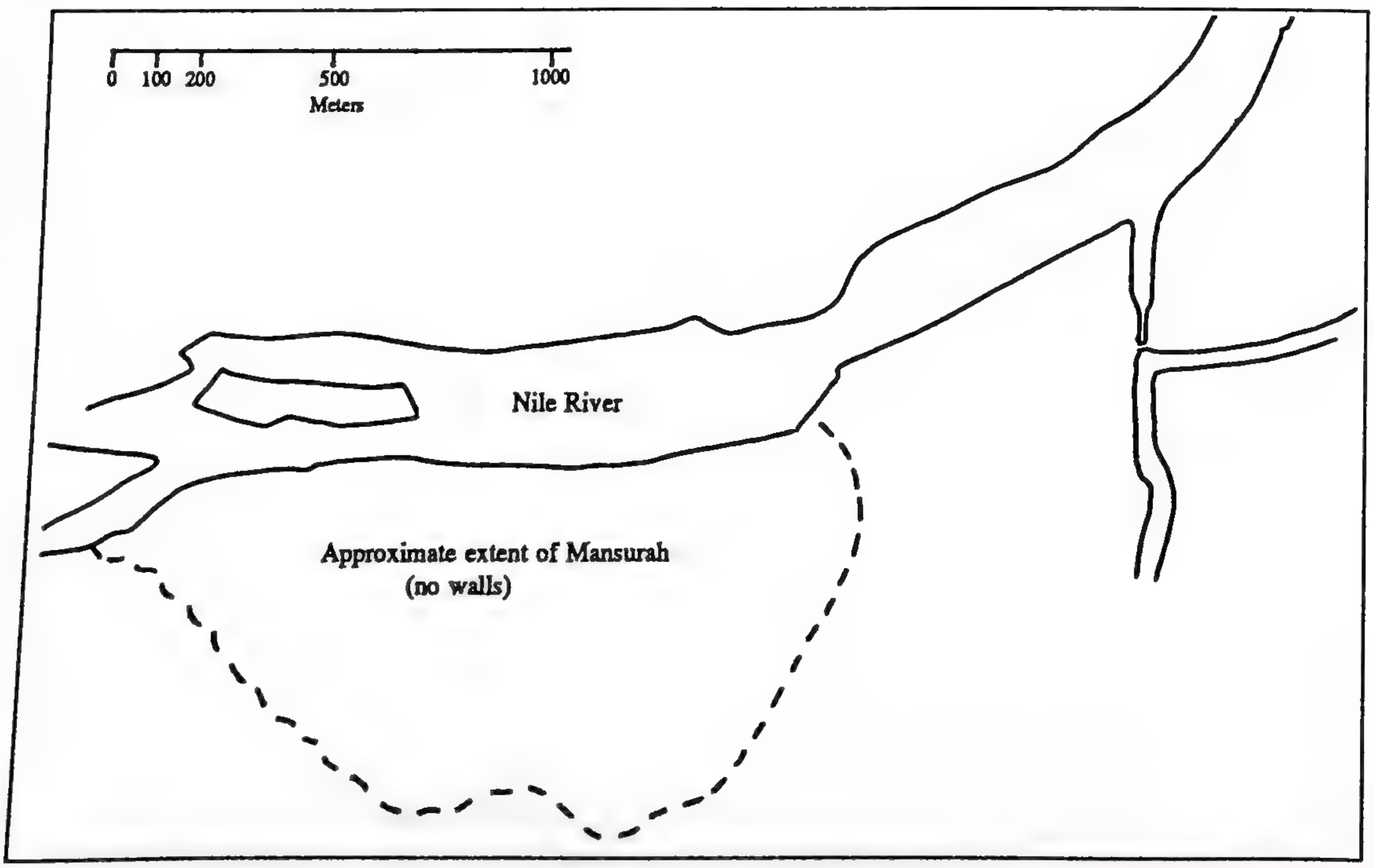


Figure 4: The Damietta branch of the Nile at Damietta (right) and Mansurah (below), according to the Egyptian Public Works Ministry, Survey Department, Series 1:10,000 (1902).



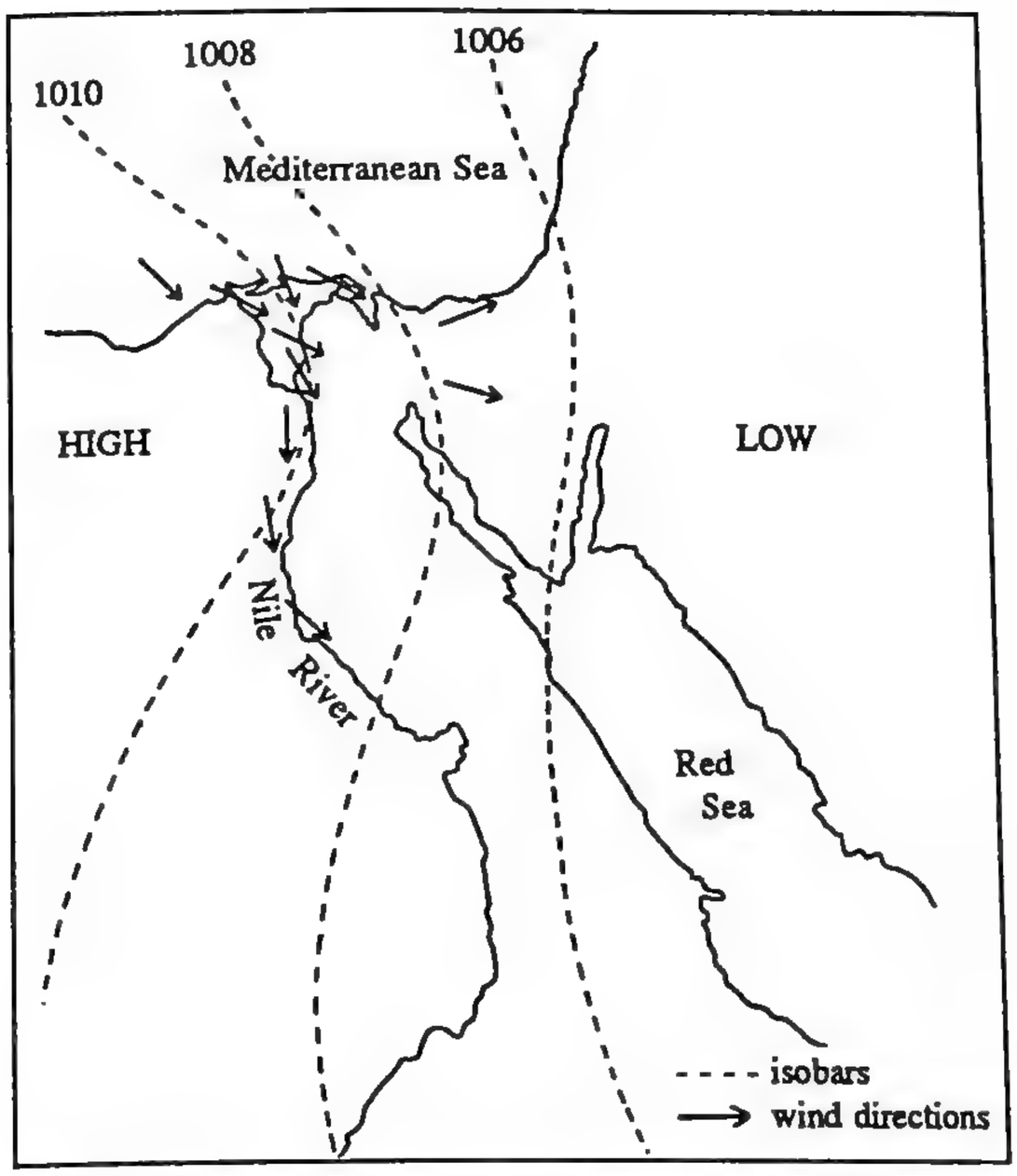


Figure 5: Mean average barometric pressure and wind directions, July, from *Atlas of Egypt* (Giza, 1928), pl. 19.

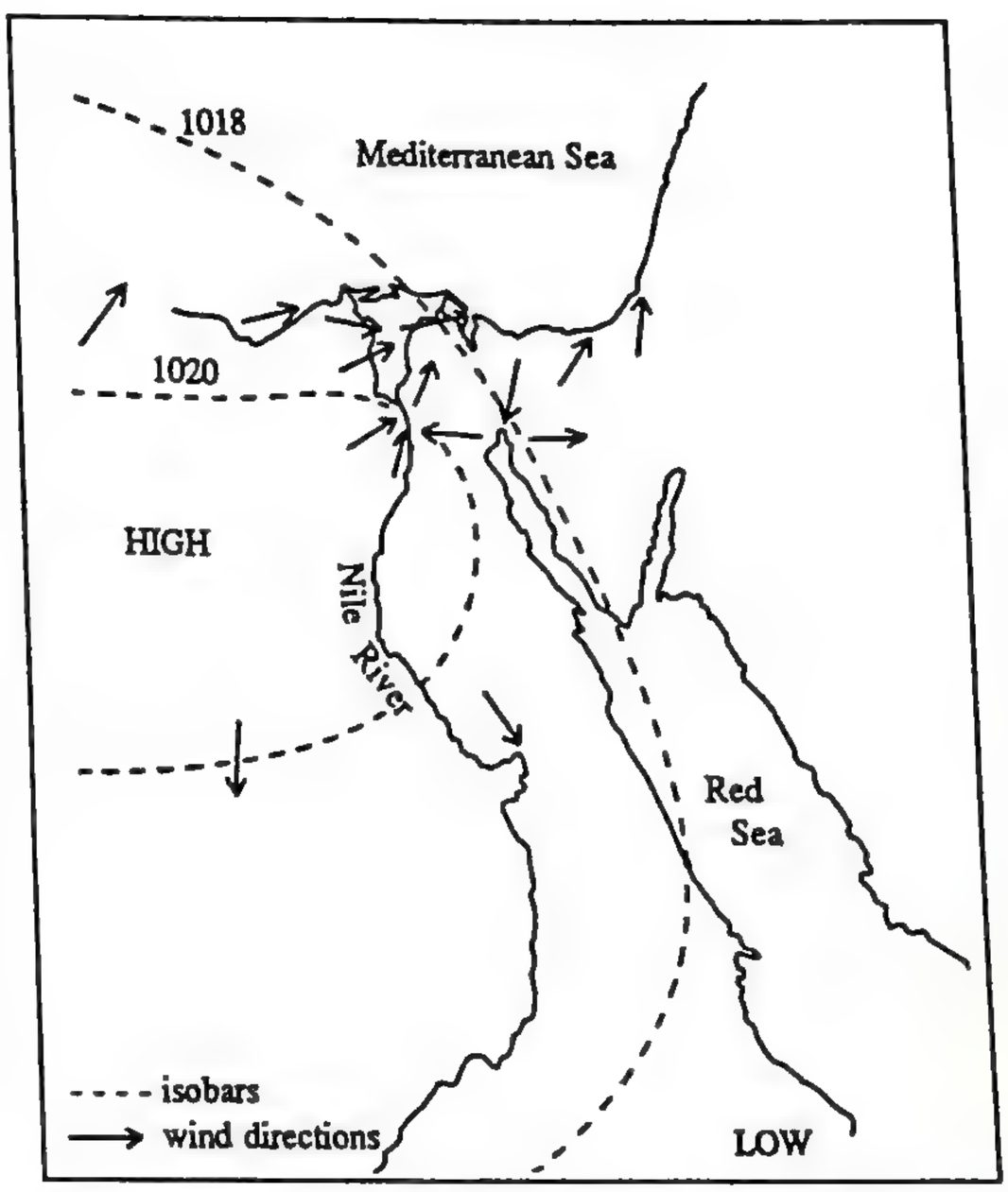


Figure 6: Mean average barometric pressure and wind directions, January, from *Atlas of Egypt* (Giza, 1928), pl. 18.

ibn Muhammad al-Qazwīnī both gave the width of the river at Damietta as one hundred cubits.[45] If this cubit was that used at the Nilometer, this would make the river only fifty-four meters wide at Damietta.[46] According to Egyptian government maps of 1909, the river was approximately two hundred meters wide at both Damietta and Mansurah.[47] (See figure 4 opposite.) The river may have been narrower in the thirteenth century than in the early twentieth, and medieval Muslim estimates of its width may have been less than precise. Whatever its actual width may have been, however, it is clear that it was comparatively narrow. This would have made sailing it against headwinds very difficult. Ships of any size at all would have found tacking extremely difficult. In summer the prevailing winds in the Nile delta are from the northwest to northeast, which would facilitate an advance up river to Cairo by ship.[48] (See figure 5 above left.) However, from mid-June the river begins to rise. It is in flood between mid-August and late October, only after which does it begin to subside until the following June.[49] During this period, the force of the current would have to be overcome even if the prevailing winds were favorable. It is not surprising that, after much debate, Louis decided to remain in Damietta until the flood crest had passed.[50] Unfortunately, when the Crusader army finally left Damietta on 20 November, the weather had changed radically. By then winter weather patterns had set in. (See figure 6 above.) These are characteristically dominated

45. As reported by G. Salmon, "Rapport sur une mission à Damiette," *Bulletin de l'Institut français d'archéologie orientale de Caire* 2 (1901): 71-89, here 78. Professor Yaacov Lev very kindly searched the works of other Muslim geographers for additional information on the river at Damietta without success. It appears that these data are the only ones given by Muslim writers and that Salmon did his work well.

46. H. Doursther, *Dictionnaire universel des poids et mesures anciens et modernes* (Brussels, 1840), 114.

47. Cambridge University Library. Maps 458.01 (Egypt, Public Works Ministry, Survey Dept.), Series 1:10,000, sheets nos. NE.36-17 and NE.27-8.

48. *Atlas of Egypt. A Series of Maps and Diagrams with Descriptive Text Illustrating the Orography, Geology, Meteorology, and Economic Conditions* (Giza, 1928), pl. 19 (July). See also J. I. Craig, "Types of Weather in Egypt," *Cairo Scientific Journal* 3, no. 30 (March 1909): 70-72, here 71 and fig. 1. See also n. 122 below.

49. W. Popper, *The Cairo Nilometer: Studies in Ibn Taghri Birdi's Chronicles of Egypt* (Berkeley, 1951), 1: 64-88.

50. Jean Sarrasin, *Lettre à Nicolas Arrode*, §19, p. 9; Vincent of Beauvais, *Speculum historiale*, lib. 31, c. 98, p. 1320; letter of an anonymous Hospitaller in Matthew Paris, *Chronica majora* 6, no. 95, p. 191.

by high pressure systems to the south and west of the delta which produce much more variable winds, including southerlies and southwesterlies blowing down the Nile towards Damietta.[51] The Rothelin manuscript of the Continuations of William of Tyre makes it clear that if Louis was wise to wait for the flood crest to pass, his advance up river was slowed and made more difficult by contrary winds which hampered the progress of his river fleet.[52]

Not only was the river narrow, frequently making it necessary to haul ships up river against contrary winds or currents,[53] it was also shallow. According to the British Admiralty chart of 1856, depths in the river from the mouth to Damietta ranged from eight to as little as 1.75 fathoms (3.2 meters).[54] Even if the Mediterranean shoreline was different in the thirteenth century than in the nineteenth, there is other evidence that the river was shallow. Marino Sanudo Torsello said that the depth at Damietta was around six *palmi* at the low and eleven *palmi* at the flood.[55] This would make the low-water depth at Damietta around 1.5 meters and that at high water around 2.75 meters.[56] An incident during the Fifth Crusade indicates that the river above Damietta was also very shallow. When the army under Cardinal Pelagius advanced on Mansurah in July-August 1221, al-Kāmil took advantage of the rising river to bring a squadron down the al-Maḥallah canal to the Damietta branch. According to Oliver of Paderborn, four captured Christian galleys and some Muslim ones were sunk across the river to prevent Crusader ships from moving between Damietta and the army opposite Mansurah.[57] Thirteenth-century galleys, whether Muslim or Christian, had a maximum freeboard from keel to gunwale amidships of no more than two meters and a draft when laden of no more than one meter. If galleys were sunk to block the river, the depth at that point cannot have been more than about three meters, even at the approach of the flood.

The evidence is conclusive that from Damietta to Mansurah the river was unsuitable for large sailing ships such as those which comprised the majority of Louis' fleet. It was too narrow and too shallow. Their drafts would have been too great, except perhaps during the flood, but then they would have had the force of the current to overcome. Moreover, should the wind turn southerly with the onset of winter weather patterns, the vessels would have had insufficient room to tack because of the narrowness of the river.

Any military force attempting to control the river needed war galleys and transport galleys, not deep-drafted sailing ships. Approximately fifty years later, Marino Sanudo Torsello had no doubt about the type of naval forces necessary for an amphibious operation up the Nile. He recommended that the army use *plactae*, flat-bottomed barges like those used on the river Po, for transportation of supplies and horses, and that the rest of the fleet be composed of war galleys, *galeae*, and transport galleys, *tarete (taride)*.[58] It should be noted that when the army of the Fifth Crusade set out up river, it was accompanied by a river fleet which Oliver of Paderborn says was composed of an unlikely combination of three hundred *cogones* (which to Oliver were any kind of small boat), eighteen galleys, *scalandri*, *thariде*, *barbotti*, *cursarii*, and *barce*;[59] in short, everything that would float except for the large sailing ships, *naves*.

The result in 1249 was almost exactly the same as in 1221. Louis' forces advanced down the east bank of the river accompanied by a river fleet which maintained contact with Damietta and supplied the army. The various sources are not explicit concerning the composition of the fleet, although the *Annales januenses* refer to a river fleet of galleys and *ligna* (a generic term for small boats), and

51. *Atlas of Egypt*, pl. 18 (January); Craig, "Types of Weather in Egypt," figs. 5-8.

52. *Continuation de Guillaume de Tyr de 1229 à 1261 dite du manuscrit de Rothelin*, in *Recueil des historiens des Croisades, Historiens Occidentaux* (hereafter cited as *RHC HOcc.)* (Paris, 1844-95), 2: 483-639, here 597: "A trez petitez journees et lentement s'en aloient contre mont le flun; car li venz estoit si forz et si roides qui ventoit encontr'elx, que le nes ne li autre vessel ne povaient estre mené contre mont se par trop grant painne et par trop granz travaux non, et il ne povaient mie laissier leur navies."

53. See J. Lozach, "La navigation intérieure en basse-Egypte," *Bulletin de la Société royale de géographie d'Egypte* 15 (1927-8): 95-113, here 107.

54. Cambridge University Library. Maps 719.01.2573.

55. Marino Sanudo Torsello, *Liber secretorum*, lib. 2, pt. 4, c. 25, p. 87.

56. The *palmus* was not a unit of length used at Venice, but Sanudo was probably using that of Rome: 0.249 meters. The *palmus* varied considerably from place to place but around .25 meters was common throughout Italy. See Doursther, *Dictionnaire universel des poids et mesures*, 375; A. Martini, *Manuale di metrologia* (Turin, 1883), 223, 394; R. E. Zupko, *Italian Weights and Measures from the Middle Ages to the Nineteenth Century* (Philadelphia, 1981), 183-5.

57. Oliver of Paderborn, *Historia Damiatina*, c. 72, p. 269. See also al-Maqrīzī, *Histoire d'Egypte*, *ROL* 9:90-91; E. Blochet, trans., "Extraits de l'histoire des patriarches d'Alexandrie relatifs au siège de Damiette," *ROL* 11 (1908): 240-60, here 256-7; Marchisius Scriba, *Annales januenses*, in Belgrano and Imperiale, *Annali genovesi* 2:178; Ralph of Coggeshall, *Chronicon Anglicanum*, 189; letter of Peter of Montaigu, Master of the Temple, in Roger of Wendover, *Flores historiarum*, 2:264.

58. Marino Sanudo Torsello, *Liber secretorum*, lib. 2, pt. 4, cc. 6-7, pp. 57-8.

59. Oliver of Paderborn, *Historia Damiatina*, c. 57, pp. 259-60.

the Rothelin manuscript of the Continuations of William of Tyre refers generically to *nes* and *vessiaux*, both large and small, composed of *barges* and *galies*.[60] Conditions of navigation on the river meant that the large sailing ships had to be left in Damietta and that the river fleet was composed of ships' boats, war galleys, transport galleys *(taride)*, and other miscellaneous small craft. Al-Maqrīzī and ibn-al-Furāt refer to the French army being accompanied up river by *shawānī*, galleys.[61]

As in 1221, the Egyptians brought a counterforce onto the river via the al-Maḥallah canal. This time we are told explicitly, both by al-Maqrīzī and by the Rothelin manuscript of the Continuations of William of Tyre, that the Muslim ships were prefabricated in sections before being taken by land to the al-Maḥallah canal where they were assembled and launched. The Rothelin manuscript says that there were fifty of these *"galies."* Al-Maqrīzī refers to this Egyptian fleet as *marāqib* (generic for ships) but later says that among it were *harāqīq* and *shawānī*. *Harāqīq*, singular *harrāqa*, was originally a term for fire ships but had come to refer to war galleys somewhat smaller than *shawānī*.[62] This force was sent down the al-Maḥallah canal onto the river, where it succeeded in capturing or destroying the Crusader river fleet. The various sources differ somewhat in their details, but the general pattern is consistent. Two French convoys or caravans were destroyed.[63] The terms used by the Western sources for the Crusader ships involved are instructive: *nacella* (for *navicella*), *navicula*, *galies*, *vaissiaux*, and *nes* used generically in the Rothelin manuscript. The Muslim sources give a similar picture. Except where the generic *marāqib* is used, they refer to the Muslim ships as *shawānī* and *harāqīq* and to the Crusader ships as *shawānī*.[64]

All the evidence suggests that the fleet which Louis IX brought to Damietta was hopelessly unbalanced. There were far too many large sailing ships which had to be left at Damietta and too few galleys capable of operating up river. Louis attempted to remedy the situation by utilizing ships' boats, *taride*, and other miscellaneous small craft, but these were no match for the war fleet of *shawānī* and *harāqīq* which the Egyptians launched on the al-Maḥallah canal. As a result, the Crusader river fleet was either destroyed or captured. Al-Aini, ibn-Wasil, Abu'l Fedā, ibn-al-Furāt, and al-Maqrīzī refer to fifty-two and thirty-two ships captured from the two convoys, of which nine were galleys, *shawānī*,[65] no doubt escorting the defenseless ships' boats, *taride*, *barce*, and *navicella*. If these nine galleys were all that Louis had at Damietta, his forces were hopelessly ill-equipped.

Frederick II's Crusade Plans, 1222-28

In 1222, Frederick began making plans to take up the Crusade again at a conference with Honorious III at Verona.[66] In the summer of 1223, a letter purporting to be from a Patriarch Nicholas of Alexandria to Honorius called for a new Crusade to be led by the emperor.[67] The

60. *Annales januenses* under 1249 in Belgrano and Imperiale, *Annali genovesi* 3:186; *Continuation . . . de Rothelin*, 596: ". . . li roiz fist apareiller ses nes. Tant i avoit de barges et de galies, de granz nes et de petites . . . . Tant i avoit de vessiaux, de petiz et de granz, que touz li flunz en estoit couverz de cele part."

61. Al-Maqrīzī, *Histoire d'Egypte*, *ROL* 11 (1908):192-239, here 215. The Arabic text is in al-Maqrīzī, *Kitab al-Sulūk fi-mā'rifat duwal al-Mulūk*, ed. M. Ziada (Cairo, 1936). The word is *shawānī*, translated by Blochet as *"navires"* in this context but used by al-Maqrīzī consistently in the sense of warships or galleys. His generic term for ships/*navires* is *marāqib*. Cf. Ibn al-Furāt, *Ayyubids, Mamlukes, and Crusaders: Selections from the Tārīkh al-Duwal wa'l-Mulūk of ibn al-Furāt*, ed. and trans. U. and M. C. Lyons, 2 vols. (Cambridge, 1971), 1: 23, 32-3 and 2: 19, 20, 27. On *shawānī*, singular *shīnī*, see A. M. Fahmy, *Muslim Naval Organization in the Eastern Mediterranean from the Seventh to the Tenth Century*, 2nd ed. (Cairo, 1966), esp. 131-2; H. Kindermann, *"Schiff" im Arabischen* (Zwickau, 1934), esp. 53; H. Zayyat, "Lexicon of Ships in Islam," *Al-Mashriq* 43 (1949): 321-59 [in Arabic], here 346-7.

62. Al-Maqrīzī, *Histoire d'Egypte*, *ROL* 11: 223-4; *Continuation . . . de Rothelin*, 610; Ibn al-Furāt, *Ayyubids, Mamlukes, and Crusaders*, 1: 32-3, 2: 26-7; Joinville, *Histoire de Saint Louis*, §58, p. 292. On *harārīq*, see Fahmy, *Muslim Naval Organization*, 134-5; Kindermann, *"Schiff,"* 22-3, 35-6; Zayyat, "Lexicon," 330-331.

63. Vincent of Beauvais, *Speculum historiale*, lib. 31, c. 100, p. 1320; Johannes de Columna, *E mari historiarum*, 122; Matthew Paris, *Chronica majora*, 5:155-6; Joinville, *Histoire de Saint Louis*, §58, p. 122; *Continuation . . . de Rothelin*, 610.

64. Al-Aini, *Extraits . . . Collier de Perles*, 209; Abu'l Fedā, *Resumé de l'histoire des Croisades, tiré des Annales d'Abou'l Fedâ*, *RHC HOr.* 1: 128; al-Maqrīzī, *Histoire d'Egypte*, *ROL* 11: 224; Ibn al-Furāt, *Ayyubids, Mamlukes, and Crusaders* 1: 32-3 and 2: 26-7.

65. Al-Aini places the nine *shawānī* in the first convoy of fifty-two ships while Abu'l Fedā, ibn al-Furāt, and al-Maqrīzī place them in the second convoy of thirty-two ships. Ibn Wasil has them in the second convoy but also numbers them at only seven. See ibn Wasil, *Mufarrij*, 292-3.

66. Huillard-Bréholles, *Historia diplomatica* 2, pt. 1: 241.

67. C. Rodenberg, ed., *Epistolae saeculi XIII e regestris pontificum Romanorum*, 3 vols., in *MGH Ep. Saec.* 13 (Berlin, 1883-94), 1, no. 233: 162-3: ". . . Sicuti sancti ante adventum Christi expectabant redemptionem et liberationem a Christo salvatore, ita expectamus adventum filii vestri imperatoris, et non solum nos expectamus hanc gratiam, sed etiam renegati plus quam decem milia, qui dispersi sunt per terras Sarracenorum. Hoc non est omittendum, sed semper in corde tenendum, qualiter, cum venerit, facere debeat dominus imperator. Hec est via salvationis et sanitatis et sine perditione annuente Domino: scilicet galee et naves, quantecumque fuerint, per flumen Rasceti intrent et ad villam, que situ est in insula fluminis, que vocatur Foha, ibi applicent, et sic Domino concedente habebunt totam terram Egypti sine perditione. Flumen Rascetum est profundum et altum et latum et dicta insula plena

letter specified that the Crusade should be seaborne, the fleet comprised of *galee* and *naves*, and should attack up the Rosetta branch of the Nile, which it claimed to be both wide and deep — a rather significant claim, even if false. The letter was in all probability a forgery, an *excitatorium* designed to put further pressure on Frederick to complete his vows.[68] The design of Frederick's fleet as later projected and, indeed, constructed may have been influenced by the specifications of the pseudo-Patriarch's letter.[69] In the meantime, Frederick and Honorius had met again at Ferentino in Campania sometime before April 1223, and Honorius claimed that Frederick had again vowed to go on Crusade within two years of the coming Feast of St. John the Baptist, probably his nativity on June 24.[70]

By 5 March 1224, according to a letter from him to Honorius III, Frederick was in the process of preparing up to one hundred galleys and fifty *usseria*, *"si necesse fuerit,"* in the ports of the Kingdom, to be ready by the coming summer.[71] The fifty *usseria* are also mentioned by the *Annales Colonienses maximi*, but the Cologne annals make no mention of the galleys.[72] As was noted above, the Cologne annals specify that these *usseria* were designed to mount the *"flumen Damiate"* or any other river. *Usseria* were not a type of ship but rather a generic word for any kind of oared cavalry transport equipped with the famous stern-quarter landing bridges for discharging mounted knights directly onto a shore. The ship type in question here may have been either *tarida* or *chelandra*. It is clear that at this stage Frederick was contemplating a return to Egypt and was preparing a fleet for an amphibious operation. He was not about to repeat the mistake of the Fifth Crusade, or make the one which Louis IX was to make later, by having large numbers of sailing transport ships tied up uselessly at Damietta.

Frederick's Crusade did not eventuate in 1224, nor in 1225, but in July 1225 Frederick concluded his famous agreement with the Pope at San Germano under the terms of which he undertook to leave on crusade within two years from August 1225. The terms of the agreement are reported by the chronicler Richard of San Germano, by Frederick himself in a charter of July 1225, and by Pope Gregory IX in a letter of 1228 to the Archbishop of Canterbury quoted by Matthew Paris.[73] All three sources agree that Frederick undertook to transport one thousand knights to the East on Crusade on a fleet of fifty galleys and one hundred *chelandre* and to maintain them for two years at his own expense. Both Richard of San Germano and Frederick's charter also agree that, in addition, he undertook to provide transportation to the East for another two thousand knights, each with an entourage and three horses, during the next three *passagii:* presumably the autumn passage of 1225 and the spring and autumn passages of 1226.[74] Gregory's own letter is merely a prècis of the terms of the agreement and says that Frederick would provide transport for these additional two thousand

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omnibus bonis, sicut labor presentium fidelis et familiaris noster poterit vobis narrare; cognovimus eum prudentem et discretum super hoc et ob hanc causam vobis eum misimus."

68. See Giles, *Emperor Frederick II's Crusade*, 24.

69. Röhricht, *Beiträge zur Geschichte der Kreuzzüge*, 1:60, n. 67. It should be noted, however, that the letter of pseudo-Patriarch Nicholas really says nothing specific about conditions in Egypt which would lead to the development of the ship types which were later employed in Frederick's fleet.

70. Huillard-Bréholles, *Historia diplomatica* 2, pt. 1: 376.

71. Ibid., 410: ". . . et ut de apparatu nostro pateat universis, centum galeas in portibus regni nostri si necesse fuerit habere confidimus preparatas; quinquaginta vero usseria noviter per regnum nostrum precepimus fabricari, singula quidem quadraginta milites cum totidem dextrariis portatura." See also Cohn, *Geschichte der sizilischen Flotte*, 25-8.

72. *Annales Colonienses maximi*, 837: ". . . quinquaginta naves fecerit preparari que usserie nuncupantur, quarum magnitudo tante capacitatis erit, ut duo milia militum cum dextrariis suis et omnium armorum suorum pertinenciis et preterea decem milia aliorum hominum valencium ad pugnam et ad bella cum armis suis in eisdem usseriis valeant transferri; ad unumquodque usserium fiet pons, ut milites, si necesse fuerit, armati et ascensis dextrariis suis in navibus commode absque lesionis discrimine per ipsos pontes valeant exire, quasi iam ordinatis aciebus in prelium processuri . . . ."

It should be noted that the Cologne annals agree with Frederick's letter in specifying that the fifty *usseria* should each carry forty knights and their horses, or two thousand in all. However, the annals also state that the *usseria* could carry in addition another ten thousand men at arms, or two hundred each. No transport galley could carry such numbers. The annals have apparently interpreted a second passage of Frederick's letter incorrectly. Frederick writes to the Pope: " . . . portatura . . . et tam de galeis quam de usseriis interim usque ad terminum pretaxatum plura fieri poterunt sicut videbitur expedire, preter naves et vasella alia infinita que per regnum et aliunde poterimus sufficienter habere." (Huillard-Bréholles, *Historia diplomatica* 2, pt. 1: 410-411). Frederick clearly envisaged a subsidiary transport fleet of miscellaneous transports to carry other forces in addition to the two thousand knights, almost certainly men-at-arms. The Cologne annals have put a number of ten thousand to these latter but have mistakenly assumed that they would be transported on the *usseria*.

73. Richard of San Germano, *Chronica*, 344-5; Matthew Paris, *Chronica majora*, 3:148; Huillard-Bréholles, *Historia diplomatica* 2, pt. 1: 501-3. See also Cohn, *Geschichte der sizilischen Flotte*, 27-8.

74. Richard of San Germano, *Chronica*, 344: "Interim dabit passagium duobus millibus militum et familiis eorumdem in tribus passagiis, et pro milite tribus equis"; Huillard-Bréholles, *Historia diplomatica* 2, pt. 1: 501: "Passagium dabimus si venerint in primo passagio vel in duobus subsequentibus passagiis, duobus millibus militum et familiis eorumdem et pro milite tribus equis." See also Cohn, *Geschichte der sizilischen Flotte*, 27.

knights *"certis terminis."*[75] It makes no mention of the entourages or of the number of horses per knight.

The agreement, then, provided for Frederick to pay for the transportation of two thousand knights with their entourages and six thousand horses to the Holy Land during 1225 and 1226 as they arrived in the Kingdom of Sicily, and then for him to go East with his own army of one thousand knights transported by the one hundred *chelandre* and with a battle fleet of fifty galleys before August 1227. No version of the agreement says how many horses each of the salaried knights of Frederick's own army could take, but if we assume three each, as with the other two thousand of 1225-6, then each *chelandra* was to carry ten knights, their entourages, and thirty horses.

Between the plans of 1224 and the agreement of San Germano, Frederick had decided to reduce the number of galleys in his battle fleet from one hundred to fifty and to increase the number of transports from fifty to one hundred. Perhaps he thought that a battle fleet of one hundred galleys was larger than he needed to overcome any resistance which might be put up by the Egyptian navy. Indeed, a fleet of one hundred galleys was larger than any western fleet known to have gone into battle at any time to this point of the Middle Ages. Moreover, naval forces in Egypt had been weak ever since Saladin had lost his fleet at Acre in 1191,[76] although not so weak as to be unable to overcome the motley collection of miscellaneous vessels that the Crusaders of 1221 had put onto the river Nile. However, the Egyptians would have found a professional, well-commanded war fleet of fifty galleys a different proposition entirely. The increase in size of the transport fleet was probably prompted by a desire to take three horses per knight instead of the one envisaged in 1224. This would provide for a far more effective and battle-resilient cavalry force.

Ship Types

The *chelandre* mentioned for the first time at San Germano as Frederick's transports are somewhat problematical. The word was derived from the Byzantine Greek χελάνδιον. The *chelandion* of the Byzantine navy was an oared ship of the same class as the *dromon*. The two terms were frequently used interchangeably,[77] the

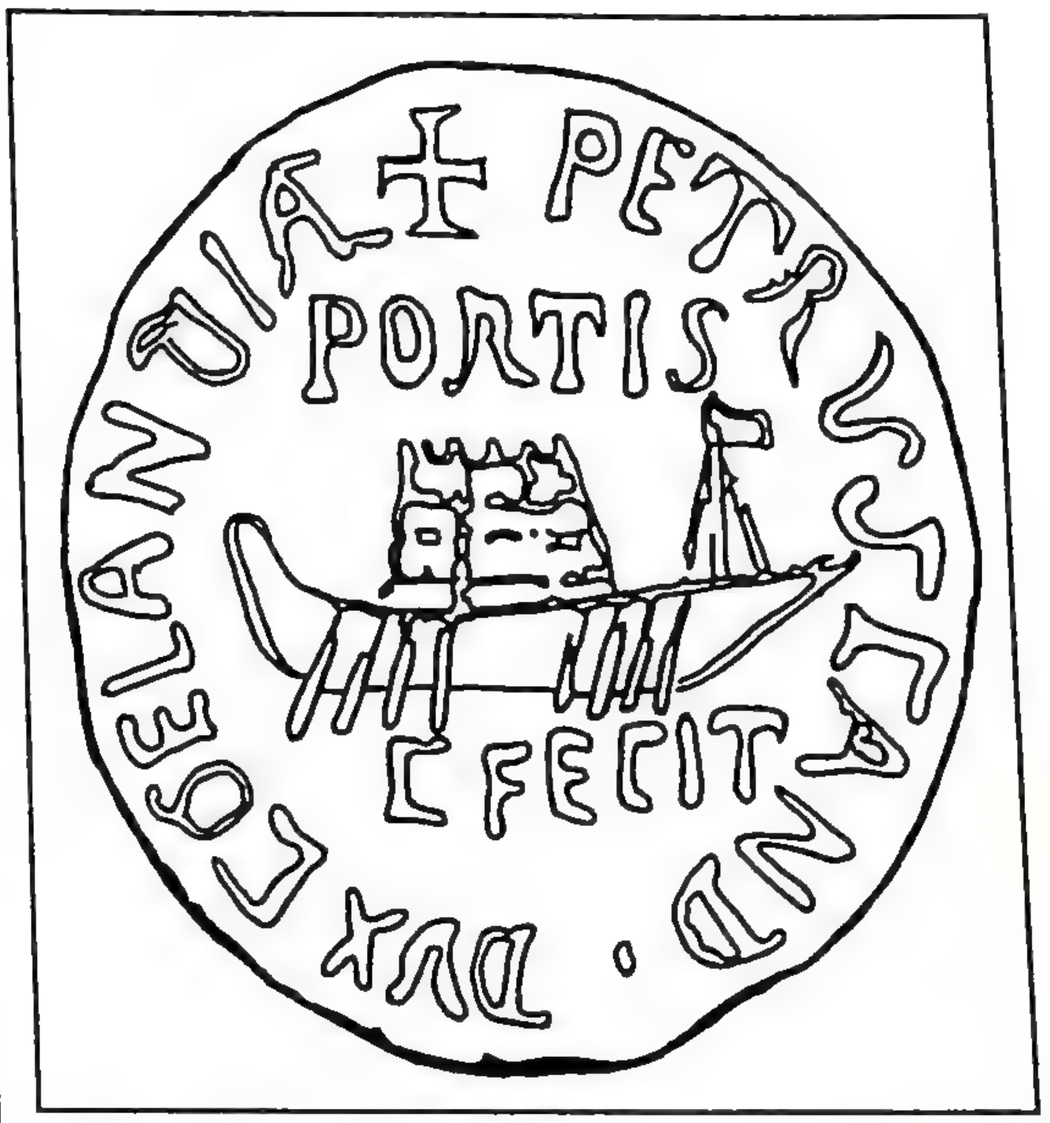

Figure 7: *Chelandia* on a medal of Doge Pietro Candiano of Venice of 931 A.D., from A. Jal, *Glossaire nautique* (Paris, 1848), 465.

difference being that in the Byzantine sources the term *chelandia* often refers to cavalry transports.[78] The *chelandion* was imitated by the maritime cities of the West. Thietmar of Merseburg described such vessels as having two oarsmen per bench on each side and as being very long and fast and equipped with Greek Fire. A picture of one survives on a medal of Doge Pietro Candiano of Venice of 931 A.D.[79] (See figure 7 above.) There are many references to *chelandre* in Italian chronicles of the twelfth and thirteenth centuries, but none provides any specifics about the design of the ships.

75. Matthew Paris, *Chronica majora*, 3:148: ". . . et quod insuper duobus milibus militum passagium certis terminis largiretur . . . ."

76. Pryor, *Geography, Technology, and War*, 125-34.

77. H. Ahrweiller, *Byzance et la mer: la marine de guerre, la politique, et les institutions maritimes de Byzance au VII^e - XV^e siècles* (Paris, 1966), 411-13.

78. Theophanes, *Chronografia*, ed. C. de Boor (Leipzig, 1883-5), 1: 432-3; Constantine VII Porphyrogenitus, *De cerimoniis aulae Byzantine*, ed. I. A. Reiskius, in *Corpus scriptorum historiae Byzantinae* 2.44 (Bonn, 1829), 1:660-61. The name χελάνδιον may have been derived from κέλης, a saddle horse.

79. Thietmar of Merseburg, *Chronicon*, lib. 3, c. 13, in *MGH SS* 13:766: ". . . navis mirae longitudinis et alacritatis, et utroque latere duos tenens remorum ordines, ac centum quinquaginta nautas. . . ." Note also that Thietmar says that Emperor Otto II rode his horse into the sea seeking refuge on a *salandria*, as though he knew well that they were horse transports (ibid., 765-6). See also A. Jal, *Glossaire nautique: répertoire polyglotte de terms de marine anciens et modernes* (Paris, 1848), 465 *(chelandium)*, 1310 *(salandria)*, and 1572-3 (χελάνδιον). The medal is reproduced on p. 465.

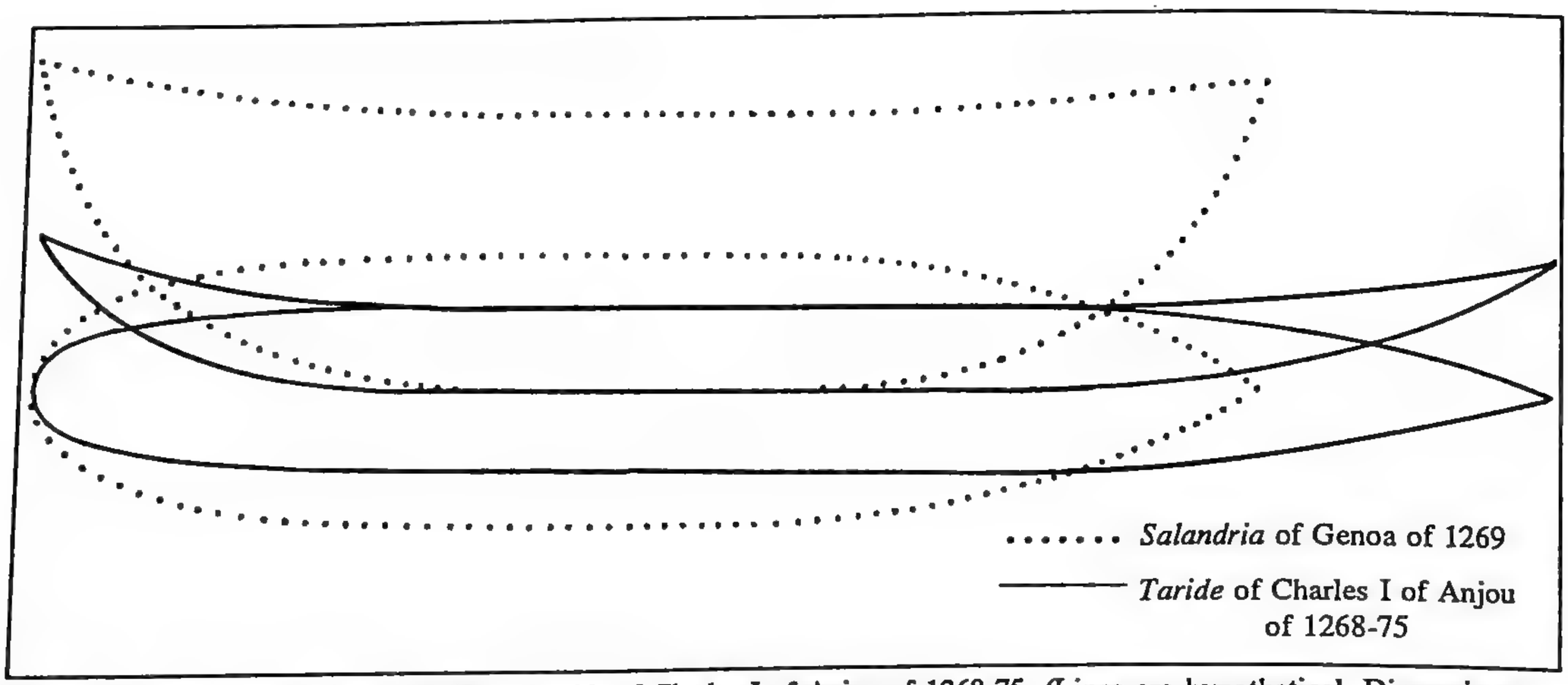

Figure 8: *Salandria* of Genoa of 1269 and *taride* of Charles I of Anjou of 1268-75. (Lines are hypothetical. Dimensions are known, based on contracts.)

The last known reference to *chelandre* in the West occurs in a contract made by Louis IX with Genoa in 1269 to provide four *"salandria"* as horse transports for the Tunis Crusade.[80] These Genoese *salandria* of 1269 were definitely sailing ships. No oars are mentioned in the contracts. No stem ports for embarking and disembarking horses such as were always found in contracts for *usseria* and *taride* are mentioned. Moreover, their beam to length ratio of approximately 1:3.89 was far too low for any oared vessel to be effective. *Taride* used as cavalry transports by Charles of Anjou in the Kingdom of Sicily in the same period had a beam to length ratio of 1:9.29 or 1:9.6.[81] (See figure 8 above.)

Were the *chelandre* specified in the agreement of San Germano oared transport galleys or *usseria* like those of the Byzantines, or were they sailing ships similar to those of Genoa of 1269? There are three reasons for believing that they were the former. First, in 1224 Frederick had been preparing fifty *usseria* for an amphibious assault on Egypt. There is no doubt that these were transport galleys of the *tarida* or *chelandion/chelandra* landing craft type. The word *usseria* is never used in any known source to describe sailing ships. Only oared vessels could have the landing bridges for disembarking knights on beaches because only oared vessels could be beached without wrecking them. Sailing ships would ground too far out from shore to be effective. Since Frederick had begun to prepare a fleet of such ships in 1224, it is most unlikely that in the following year he would have abandoned the fruits of his labors in order to prepare a fleet of a completely different type. Second, when Frederick himself finally arrived in Cyprus on Crusade in 1228, Philip of Novara says that he arrived at Limassol with seventy galleys, *taride*, and other ships.[82] There is no reason to suppose that between the first assembling of his army at Brindisi in the summer of 1227, when Frederick himself said that the fleet was composed of fifty galleys and an unspecified number of *chelandre*,[83] and his final departure in 1228, that Frederick had had different ships of the *tarida* class built. Almost certainly, when he turned back after becoming ill in September 1227, he kept with him both some galleys and some of the *chelandre*. In 1228 the latter were identified by Philip of Novara as *taride*. This suggests that the nomenclature for such transport galleys

80. Jal, "Pacta naulorum," 1:561-5, 574-83, 594-8. See also Pryor "Naval Architecture of Crusader Transport Ships," 377-8.

81. Pryor, "Transportation of Horses by Sea," 114-5 (docs. 1, 2, 4, 5). Here the length of Angevin *taride* was invariable at eighteen *canne* (144 *palmi)* while in three cases the beam was 15.5 *palmi* and in one fifteen *palmi*. On the beam to length ratio of the *salandria*, see Pryor, "Naval Architecture," 378.

82. G. Raynaud, ed., *Les gestes des Chiprois* (Geneva, 1887), 38: ". . . et mena o luy .lxx. entre gualles et tarydes et autre navie."

83. Huillard-Bréholles, *Historia diplomatica*, 3:43: "Tandem instante passagio, navigia, chelandras et quinquaginta galeas ad loca passagii, non a nobis, sed ab antiquis temporibus ordinata, Brundusium videlicet ubi passagium fieri semper competentius consuevit, duci fecimus et parari . . . ."

was very interchangeable. *Chelandra* and *tarida* were merely different names derived from different traditions for oared transport galleys. *Usseria* was the generic name for such ships. There was a very heavy influence from Byzantine maritime terminology in southern Italy which lasted into the Angevin period, and it is not surprising that Frederick's chancery should have used the term *chelandra* for transport galleys.[84] *Tarida* was another name for such transports derived from the Arabic *ṭarīda*.[85] It eventually replaced *chelandra* in use in the Kingdom of Sicily, but in the early thirteenth century the terms were interchangeable. Finally, the figure of thirty horses per *chelandra*, which Frederick intended to carry on his fleet of *chelandre*, corresponds precisely to that habitually carried on Angevin *taride* later in the century.[86]

I argue, then, that Frederick's transport fleet of 1227, or more precisely of 1228, was composed not of sailing ships but rather of transport galleys of the traditional Byzantine and South-Italian type known in the Kingdom of Sicily at this time as *chelandre*. There was no difference in type between the fleet projected in 1224, whose destination was Egypt, and that agreed upon at San Germano. The point is, however, that such a fleet would have been an extremely inefficient means of transporting cavalry to the Holy Land if all that was ever intended was to land at Acre and campaign in Palestine. Acre had docks and could handle disembarkation of horses from sailing ships, which could transport far larger numbers of horses per ship and do so much more cheaply because of the smaller crews required. As opposed to the one hundred or more oarsmen plus other crew required for a *tarida* or *chelandra*, an average sized two-decked, two-masted sailing ship could have a crew of twenty-five to seventy-five men but it could carry up to one hundred horses as opposed to the thirty or forty of a *tarida* or *chelandra*.[87] The type of ship leased by Joinville at Marseilles, with a loading port in the hull at the first deck, would have been the ideal form of transportation of cavalry to Acre.[88] The question must then be asked, why did Frederick use a fleet of the type that he did? He was not noted for his impracticality.

84. See J. H. Pryor, "The Galleys of Charles I of Anjou," forthcoming in *Studies in Medieval and Renaissance History*.

85. V. Christides, *The Conquest of Crete by the Arabs (ca. 824): A Turning Point in the Struggle between Byzantium and Islam* (Athens, 1984), 46.

86. See Pryor, "Transportation of Horses," 114-6.

87. See Pryor, "Naval Architecture of Crusader Transport Ships," 184-5, 219, 375.

88. Joinville, *Histoire de Saint Louis*, §125, p. 54.

Size of Forces

Frederick's forces in the Holy Land were reported by his enemies and by those who accepted their testimony to be very small.[89] They may have been considerably more formidable, however, than such accounts claim. Up to two thousand knights and their retinues may have been transported to Acre during the passages of 1225 and 1226 under the terms of the agreement of San Germano. How many of these were still in the East in 1228 cannot be known. However, other Crusaders also made their way to the East independently from Frisia, Germany, and England.[90] In July 1227 Thomas de Aquino, Count of Acerra, sailed from Brindisi for the Holy Land with an unspecified number of ships and men.[91] After Frederick fell ill at Brindisi, he placed his fifty galleys at the disposal of Herman von Salza, the Master of the Teutonic Knights, and assigned other *chelandre* and vessels to transport the Crusaders to the East under the command of Duke Henry of Limburg.[92] In April 1228 the Marshall, Riccardo Filangieri, was sent to Palestine with another five hundred knights.[93] How many of these forces were still in the Holy Land awaiting Frederick's arrival in July 1228 is obviously debatable. The well-known and scurrilous letter of Patriarch Gerald reported by Gregory IX in a letter quoted by Matthew Paris says, of course, that more than forty thousand men returned home, leaving the Duke of Limburg with only eighty knights.[94] However, Gerald had become Frederick's implacable enemy, and his credibility is nil. Relating Frederick's ultimate arrival in person, Gerald says that he arrived with only forty knights.[95] This is a ridiculous minimization. Frederick sailed from Brindisi with at least forty galleys and, according to Philipp of Novara and Amadi, seventy vessels including galleys, *taride*, and other ships (*naves* and *legni*) reached Cyprus.[96] Unless the ships were completely empty,

89. Letter of Patriarch Gerald of 1229 quoted in Matthew Paris, *Chronica majora*, 3:179; Marino Sanudo Torsello, *Liber secretorum*, lib. 3, pt. 11, c. 11, p. 211; *L'estoire de Eracles empereur*, *RHC HOcc.* 2:366.

90. Van Cleve, "Crusade of Frederick II," 444-6.

91. Richard of San Germano, *Chronica*, 348.

92. Huillard-Bréholles, *Historia diplomatica*, 3:44. Herman von Salza needed only twenty of the fifty galleys. See Cohn, *Geschichte der sizilischen Flotte*, 31.

93. Richard of San Germano, *Chronica*, 349. See Cohn, *Geschichte der sizilischen Flotte*, 31.

94. Matthew Paris, *Chronica majora* 3:128.

95. Ibid., 179.

96. Huillard-Bréholles, *Historia diplomatica* 1, pt. 2: 898 *[Breve chronicon de rebus Siculis]*; Raynaud, *Gestes des Chiprois*, 38; R. de Mas Latrie, ed., *Chroniques d'Amadi et de Strambaldi* (Paris, 1891), 133; *Annals of Dunstable (Annales Prioratus de Dunstaplia)* ed. H. R. Luard, in *Annales monastici*, *Rolls Series* 36 (London, 1864-66), 3: 114.

Frederick had brought with him a considerable force to add to those already at Acre. In Cyprus, Frederick was able to deploy three thousand armed sergeants, crossbowmen, and sailors to press his claims to the royal revenues of Cyprus.[97] Something that is frequently overlooked by historians calculating the strengths of military forces in the Middle Ages is the fact that sailors and galley oarsmen were not noncombatants. Every maritime power used its sailors and oarsmen in battle, both on land and at sea. They were free men and were expected to fight as well as to sail and row. They were supplied with arms.[98] At a rough average of one hundred oarsmen and some fifty other personnel per galley,[99] a fleet of fifty galleys could supply seventy-five hundred foot soldiers to an army.

No doubt some Crusaders had returned home. Some of the two thousand for whom transportation had been provided in 1225 and 1226 may have run out of funds or have tired of waiting. Some may have returned in the spring of 1228 after the news of Frederick's turning back had reached the East and before his departure on 28 June 1228 was announced. They cannot have been many, however. Certainly, those for whom the emperor had paid, under the commands of Thomas de Aquino, the Duke of Limburg, and Riccardo Filangieri, could not have returned home. Moreover, even the letter of Patriarch Gerald says that those who returned home did so on the ships on which they had arrived. Since Frederick had provided the bulk of the ships, only those who had come East privately could have returned home.

The exact size of Frederick's forces in the Holy Land cannot be known.[100] But to suggest that they were a negligible fighting force would obviously be a gross exaggeration. As well as at least one thousand knights in his own paid force, Frederick must have disposed of many more from those who had come privately and from the other two thousand for whom he had provided transportation. Then there were the forces of the Military Orders and the nobility of the Crusader states. To these should be added the crews of at least ninety galleys and one hundred *chelandre* who could serve as foot soldiers, and there were other vessels as well. Letters from Herman von Salza to Gregory IX and from Frederick himself to the nobility of the Empire of March 1229 refer to *barce, vassella,* and *naves* supplying Frederick's army from the sea as it marched south from Acre to Jaffa in November 1228.[101] If it is almost certainly true that the Crusader forces could not match the enormous numbers available to al-Kāmil in Palestine, their potential should still not be underestimated. An experienced politician and war leader such as al-Kāmil would not have done so.

97. Raynaud, *Gestes des Chiprois*, 40.
98. See Pryor, "The Galleys of Charles I of Anjou."
99. Ibid.
100. See Giles, *Emperor Frederick II's Crusade*, 84-7.

Frederick and al-Kāmil

Negotiations with al-Kāmil's envoys commenced around September 1228 and were concluded on 18 February 1229.[102] The two most important elements of the treaty signed between Frederick and al-Kāmil were the cession of control over Jerusalem, except for the Temple Mount or al-Ḥaram ash-Sharīf, and a truce for ten years.

Al-Kāmil had in fact offered to cede Jerusalem on two previous occasions. The first had been during the Fifth Crusade and the siege of Damietta in February 1219.[103] At that point he had just succeeded his father in the sultanate, and his politico-military situation was dire indeed. The second had been in 1226-27 when on two occasions he had sent his trusted confidant, the emir Fakhr-ad-Dīn, to Sicily seeking an alliance against his bitter enemy, his brother al-Mu'aẓẓam 'Īsâ of Damascus. In exchange he had offered to cede Jerusalem.[104] His motive on this occasion was the threat of an alliance between al-Mu'aẓẓam and Jalāl-ad-Dīn Mangubertī, the Shah of Khorezm in flight from the Mongols. As in 1219, al-Kāmil's fortunes were seriously threatened again in 1226-7, and only this explains his willingness to cede Islam's third holiest city to the infidels.

By 1228, however, the situation had changed radically. Al-Mu'aẓẓam had died on 12 November 1227 and had been succeeded by his son an-Nāṣir Dā'ūd, a youth of twenty-one. Al-Kāmil had initially given an-Nāṣir his support and had sent him robes of honor, but his nephew had shown signs of rebelliousness which persuaded al-Kāmil that the son was no better than the father. In July/August 1228, al-Kāmil's forces marched into Palestine and seized Jerusalem, Nablus, and Hebron. Al-Kāmil encamped initially at Tall al-'Ajūl near Gaza. He then moved to Nablus but later retired back to Tall al-'Ajūl. An-Nāṣir's other uncle, al-Ashraf Mūsâ of the

101. Huillard-Bréholles, *Historia diplomatica*, 3:90-91, 95.
102. Ibid., 97.
103. Blochet, "Histoire des patriarches d'Alexandrie," 253; Oliver of Paderborn, *Historia Damiatina*, c. 31, p. 222; *L'estoire de Eracles empereur*, 339.
104. Al-Maqrīzī, *Histoire d'Egypte*, *ROL* 9:509-11; al-Aini, *Extraits . . . Collier des Perles*, 185-7; Ibn Wasil, *Mufarrij*, 268.

Jazira, came south to attempt to reconcile nephew and uncle. On 10 November 1228 he went to see al-Kāmil at Tall al-'Ajūl while An-Nāṣir was camped at Nablus. At the meeting, however, al-Ashraf betrayed his nephew and reached agreement with al-Kāmil to divide their nephew's domains, with al-Kāmil taking Jerusalem and Palestine and al-Ashraf taking Damascus and Syria. An-Nāṣir was to be mollified with Harran, Edessa, and other territories in the Jazira. The deal was done towards the end of the Muslim year 625 or early in 626, probably in early December 1228. When an-Nāṣir learned of the agreement of Tall al-'Ajūl, he broke from Nablus and fled towards Damascus. He was overtaken, however, by al-Ashraf, who tried unsuccessfully to persuade him to accept the agreement. Having rejected the agreement of Tall al-'Ajūl, an-Nāṣir then continued on to Damascus, where he was besieged by al-Ashraf from late in 1228 or early in 1229. The chronology of these events is less than precise, but it is clear that al-Kāmil had secured his brother's agreement to the dispossession of an-Nāṣir before the treaty was made with Frederick and that, by the time that that treaty was concluded, an-Nāṣir was besieged in Damascus and politically neutralized.[105] The siege of Damascus was, in fact, initially unsuccessful. Nonetheless, during the winter of 1228-29, while the negotiations with Frederick were being brought to a conclusion, al-Kāmil can have had little concern about the threat to him from Damascus which had prompted him to send Fakhr-ad-Dīn to Sicily. Although he had twice previously shown himself willing to cede Jerusalem in order to achieve other political goals and to be prepared to accept the condemnation of the Muslim world, to ride with the opposition until it faded away, the gains to be expected from ceding Jerusalem would have had to outweigh the damage to his political position that such action would entail. By 1229 there were no such gains to be expected, and he no longer had any personal political motive to make a treaty with Frederick, let alone to cede Jerusalem.

Al-Kāmil was a wily politician, a man of *real politique*. He was also urbane and sophisticated. His religion may have sat lightly on his shoulders. But no matter what his character as a man and a politician may have been, he was still a Muslim and would have been perfectly well aware of the opprobrium which would fall upon his head should he cede Jerusalem to the Christians. This was, of course, exactly what did happen.[106]

The only known explanation for al-Kāmil's conduct in a Western source is that offered by Alberic of Trois Fontaines, who intimates that al-Kāmil made the treaty because he was at war against the three sons of his brother al-Mu'aẓẓam and was besieging Damascus.[107] Although there are kernels of truth in this, Alberic's scenario is garbled and far from what was the reality.

The explanations offered by the Arabic sources are unconvincing, although they do offer some clues as to what al-Kāmil's real motives may have been. Ibn Wasil offers the most detailed explanation:

> Nor was it possible to turn him [Frederick] away and attack him because of the terms of the earlier agreement, and because this would have lead him [al-Kāmil] to lose the goals on which his heart was set at the time. . . . The sultan al-Malik al-Kāmil maintained that if he broke with the Emperor and failed to give him full satisfaction the result would be a war with the Franks in which the Muslims would suffer irreparably, and everything for which they were working would slip from their grasp.[108]

Al-Aini, quoting an-Nuwairi, says simply that al-Kāmil could not find a means of averting a truce.[109] Al-Maqrīzī offers two lines of thought. First, he says that Frederick maintained that during the Fifth Crusade al-Kāmil had offered to surrender all of the *sahel*, the Egyptian-Palestinian coast, and to concede rights over Alexandria to the Franks and that he could not now offer any less to Frederick. That does not, of course, explain why al-Kāmil was persuaded by such an argument. But later al-Maqrīzī explains that al-Kāmil agreed because of the thoughtless approach that he had made to Frederick, which can only refer to the sending of Fakhr-ad-Dīn to Sicily, and because the difficulty in which he now found himself would prevent him from resisting attacks from the ruler of Damascus.[110] As we have seen, this last cannot have been correct. Al-Maqrīzī was a very good historian, but he was also writing a very long time after the event.

Modern historians have, by and large, echoed the explanations given by the Arabic chroniclers.[111] They do

105. See Humphreys, *From Saladin to the Mongols*, 193-202; Prawer, *Histoire du royaume latin de Jérusalem*, 2:193-8; Gottschalk, *Al-Malik al-Kāmil*, 146-52; H. A. R. Gibb, "The Aiyūbids," in Setton, *History of the Crusades*, 2:693-714, here 701-2; Stevenson, *Crusaders in the East*, 310-11.

106. See n. 2 above.

107. Alberic of Trois Fontaines, *Chronica Alberici monachi trium fontium*, *MGH SS*, 23 (Hanover, 1874), 631-950, here 925.

108. Ibn Wasil, *Mufarrij*, 269-70.

109. Al-Aini, *Extraits . . . Collier des Perles*, 188.

110. Al-Maqrīzī, *Histoire d'Egypte*, in *ROL* 9:519-20, 525.

111. See n. 3 above and Giles, *Emperor Frederick II's Crusade*, 161-215.

not appear to have grasped, however, the implications of the critical suggestion of ibn Wasil that al-Kāmil really had something to fear from Frederick, that war would imperil his current objectives, and that he therefore could not avoid a truce and the cession of Jerusalem. There is no doubt that the "goal" for which al-Kāmil was working was the establishment of his own overwhelming hegemony within the Ayyubid sultanate. He had just concluded a very advantageous agreement with al-Ashraf at Tall al-'Ajūl and was in the process of using al-Ashraf to neutralize an-Nāṣir. He was very close to achieving his ultimate political objectives and certainly would have wished to avoid all-out war with Frederick's Crusaders. But what sort of threat to al-Kāmil could Frederick's forces pose which might make him think that his cause could "suffer irreparably?"

Even though Frederick's forces in Palestine may have been a good deal more formidable than they are often reported, it is doubtful that they posed a sufficient threat to al-Kāmil in Palestine to persuade him to concede Frederick's demands before even testing his strength against him, to give up the game before even playing it. Whatever their strength may have been, the Crusaders were also riven by dissension precipitated by Frederick's excommunication. This certainly militated against their effectiveness, and al-Kāmil must have known of this weakness.

Nor would al-Kāmil have felt so bound by his negotiations of 1226-7 with Frederick that he could not in honor retreat from his commitment now that the circumstances had changed. He was an experienced and hardened statesman and had survived as sultan of Egypt since 1218 amid a welter of broken treaties and commitments. He would not have felt himself more bound by a commitment to a Christian emperor than he had shown himself to be to members of his own family, such as his nephew an-Nāṣir Dā'ūd. The Ayyubid family's hold on power had always been based on the principle of *'asabiyyah:* family solidarity in the face of all nonfamily members.[112] Yet al-Kāmil had disinherited his nephew in order to aggrandize his own position. Can we seriously believe he would feel bound by an informal commitment made to an infidel?

Henry of Malta's Fleet

I believe that the Continuation of William of Tyre known as the *Eracles* provides the clue to understanding al-Kāmil's actions. The author writes:

> When the emperor heard this news [of the Papal invasion of the Kingdom of Sicily], he was very disturbed, for he saw that by delay [to return home] he could lose all the kingdom; and if he abandoned the business of the Holy Land, he would stand in great risk of shame and dishonor; and even if he truly wished to leave, he could not do so because of the winter. He concealed his situation as best he could, and despatched the galley [which had brought the news from Italy] home secretly, and sent to encourage his men; and he ordered his admiral Count Henry of Malta to come to him at Easter and to bring with him twenty galleys. And then he put so much effort and trouble (into it), that he made a truce with the sultan.[113]

The *Eracles* makes it quite clear that the summons of Henry of Malta to the Holy Land with twenty galleys by Easter 1229 was part of Frederick's plans during the negotiations with al-Kāmil into which he put so much effort. But why would Frederick have sent a summons to Henry in midwinter to bring a fleet of twenty war galleys to the East by Easter? Certainly not for any land campaign in Palestine. It is true that, according to the *Breve chronicon de rebus Siculis,* when Frederick finally left Acre on 1 May 1229, he did so with seven galleys which had just arrived from Sicily under Henry of Malta.[114] One might then suggest that the summons to Henry was to bring a fleet to transport Frederick home. However, this would obviously not be correct. Frederick already had a huge transport fleet in the Holy Land. It had not evaporated.

Willy Cohn claimed that Henry of Malta had sailed to the East with Frederick in June 1228 but that, as soon as the fleet arrived at Acre on 7 September, Frederick sent Henry home to Italy with half the fleet.[115] Cohn cited no sources for this but referred to Winkelmann, where he said that they were cited.[116] However, in fact Winkelmann had

112. See M. C. Lyons and D. E. P. Jackson, *Saladin: The Politics of the Holy War* (Cambridge, 1982), passim.

113. *L'estoire de Eracles empereur*, 373-4: "Quant li empereres entendi ces noveles, si en fu moult entrepris, car il vit que par le delai il poeit perdre tout le regne; et se il abandonoit le fait de la Sainte Terre, il li estoit grant peril de honte et de damage; et se il bien se vosist partir, ne peust il por l'yver. Il covri son fait au plus beau que il pot, et renvoia le galion arriere priveement, et manda confortant ses gens; et manda a son amirail le conte Horri de Maute que il venist a lui au pascor et li amenast .XX. galees. Et lors mist si grant peine et tel entente que il fist trives o le soutan."

114. Huillard-Bréholles, *Historia diplomatica* 1, pt. 2: 902 [*Breve chronicon de rebus Siculis]*. See also Cohn, *Geschichte der sizilischen Flotte*, 34.

115. Cohn, *Geschichte der sizilischen Flotte*, 103.

116. E. Winkelmann, *Kaiser Friedrich II*, 2 vols. (Leipzig, 1889, 1897), 2:20, n. 3.

no hard evidence for this claim. Examination of his sources leads to the conclusion that the claim was based on circumstantial evidence only. The size of the fleet which accompanied Frederick in June-September 1228 varies according to the different sources;[117] however, the figure of forty galleys given by the *Breve chronicon de rebus Siculis* and the *Annals of Dunstable* was accepted by Winkelmann as a base figure. No source mentions that Henry of Malta accompanied the fleet. Winkelmann simply assumed that he did because he was Admiral of the Kingdom. The chronicle of Ernoul says that upon his arrival in Acre Frederick sent back *one* galley to announce his arrival to the pope, but this is the only source which refers to any of the ships of the fleet being sent back.[118] The only evidence, circumstantial as it is, for Henry of Malta's return to Italy is a letter from Gregory IX, written at Perugia on 30 November 1228 and sent to Genoa, announcing that, prior to that date, Henry of Malta and Archbishop Marino Filangieri of Bari had visited him to try to repair Frederick's relations with the papacy.[119]

This is the sum of the evidence. Winkelmann extrapolated from the fact that Henry of Malta was Admiral of the Kingdom to a presumption that he must have sailed with Frederick to the East. He then adduced from the facts that Henry was in Italy in November 1228 and that Frederick later summoned him to the Holy Land with twenty galleys, half of the figure given for the fleet by the *Breve chronicon de rebus Siculis* and the *Annals of Dunstable*, to build his circumstantial argument. There is no reason to assume, however, that Henry sailed with Frederick in June 1228, nor any evidence to prove that more than a single messenger galley returned to Italy in September.

In addition, Winkelmann and Cohn did not address the question of why Frederick would have wanted to send his best admiral and twenty galleys of his fleet back to Italy in September. He did not receive notice of the papal invasion of the Kingdom until later in the winter. It might be argued that he already suspected that the pope might take some action against his domains while he was away, but there is no concrete proof for this. Moreover, the usefulness of a fleet against land forces in the peninsula of Italy would obviously have been limited. To send half the fleet home would not have been an appropriate response to such a perceived threat.

There is a further consideration. The normal duration of a voyage home from the East to Italy against the prevailing winds was seven to eight weeks.[120] Frederick himself took five weeks in the favorable conditions of summer from 1 May to 10 June 1229 to make the voyage from Acre to Brindisi.[121] Given that a good deal of time would have been necessary to rest the crews and resupply the galleys after their arrival at Acre on 7 September on the outward voyage, it is most unlikely (although just technically possible) that Henry of Malta could have taken a large fleet of twenty galleys back to Italy in the deteriorating weather conditions of late autumn in time for him to reach Apulia, make contact with the archbishop of Bari, and make a land journey to meet with the pope at Perugia by late November.

A critical examination of the evidence leads to the conclusion that Frederick kept all of his squadrons with him in the Holy Land, as one would expect. He needed them there. In the winter of 1228-9 he sent for his best admiral, Henry of Malta, to bring a further twenty galleys to the East. The campaign was over by the time they arrived, and he used seven of them, no doubt the fastest, to take him back to Italy to deal with the crisis there. But the purpose for which he originally summoned Henry to the Holy Land was not to provide transport home.

The Significance of Frederick's Fleet

Frederick may have decided to limit his campaigning in the East to Palestine, but that does not mitigate the fact that he came with a fleet which might suggest something completely different to an external observer. During the negotiations with al-Kāmil, Frederick may even have threatened the Egyptian sultan with an invasion of Egypt if he did not accede to his demands. Even if he did not actually do so, al-Kāmil must certainly have perceived the threat to Egypt that Frederick's armament posed. He had with him in the East a battle fleet of at least fifty and probably ninety galleys and a transport fleet of one hundred *chelandre* admirably suited to amphibious operation on the Nile. Protected by a battle fleet of such proportions, the *chelandre* could deliver unopposed to any destination accessible by water a force of at least one thousand knights. If the number of horses per knight was cut back to one or two for an initial assault, with an intent to use the ships to resupply the knights with fresh horses, then fifteen hundred or even three thousand knights could

117. See n. 96 above.

118. L. de Mas Latrie, ed., *Chronique d'Ernoul et de Bernard le trésorier* (Paris, 1871), 462.

119. Huillard-Bréholles, *Historia diplomatica* 3:83.

120. Pryor, *Geography, Technology, and War*, 3-6, 35-6, 51-3, 98.

121. Huillard-Bréholles, *Historia diplomatica* 1:902 *[Breve chronicon de rebus Siculis]*.

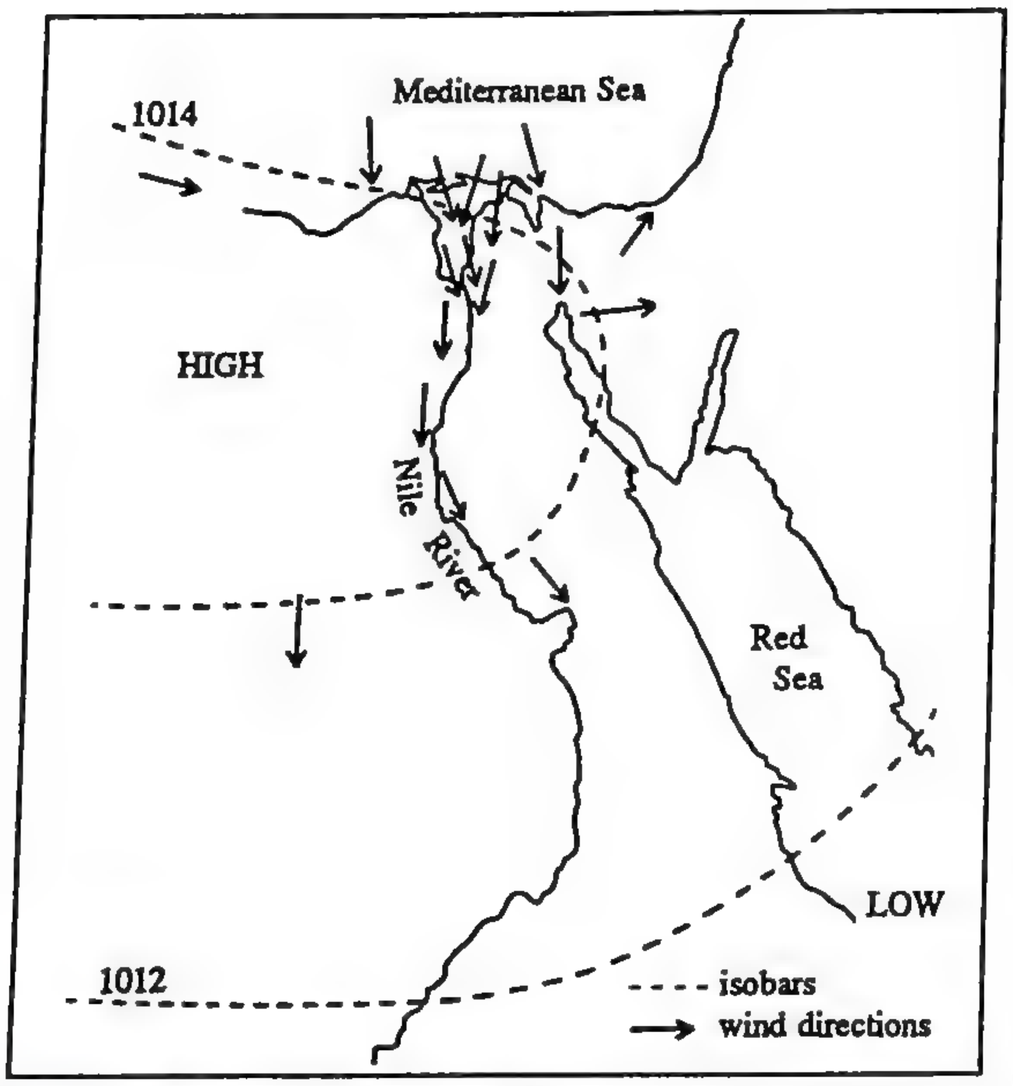

Figure 9: Mean average barometric pressure and wind directions, April, from *Atlas of Egypt* (Giza, 1928), pl. 18.

be landed. This would be a formidable force if it landed in the right place at the right time and was supported by foot soldiers supplied from the crews of some of the galleys and *chelandre*. The crews would number at least twenty thousand men. In order to reinforce his battle fleet, however, Frederick now sent for another twenty galleys under his best admiral. Even if they had used their *harrārīq* as fire ships, Egyptian naval forces would have found it difficult to dispute the passage of Frederick's fleet up river. They would not be opposing a miscellaneous collection of ill-designed craft as had been the case in 1221. It is inconceivable that al-Kāmil did not appreciate this fact.

During the Fifth Crusade, and indeed again later during Louis IX's Crusade, the main obstacle encountered by the Crusaders on their advance up river from Damietta was the Baḥr aṣ-Ṣaghīr canal leading from the Damietta branch to Lake Manzalah below Mansurah. (See figure 3 on page 119.) Advancing up the east bank of the river, both armies were trapped in the triangle between the Damietta branch and the Baḥr aṣ-Ṣaghīr, although Louis IX eventually found a way across the canal. With the fleet that he had in 1229, however, Frederick could have landed his army above the Baḥr aṣ-Ṣaghīr, and from there it could have struck across open desert to Cairo, with no natural obstacle in the way.

The specified arrival date of Easter for the squadron under Henry of Malta suggests the threat of a spring campaign in Egypt. This would have been by far the best time of the year for such an attack, as al-Kāmil would have known only too well. At that time the Nile would be dropping towards its low. The ability of the Egyptians to trap an army by cutting the dykes would be at a minimum. The current would be slackening towards its weakest, facilitating a waterborne advance up river. By April the variable winds of winter would have been replaced by the prevailing northerlies of summer as the influence of the Aegean *meltemi* became more and more pronounced. (See figure 9 opposite.) At Alexandria and Port Said, the percentage frequency of winds from northwest to northeast at 1400 hours in April, May, and June averages 87 percent.[122] A fleet moving up river would have the advantage of strong following winds, which would assist the oarsmen to overcome a weak current and would obviate the need to tack on the narrow Damietta branch of the river.

The implications of the maritime evidence relating to the Crusade of Emperor Frederick II are, then, that the nature of the fleet and the forces which he had brought to the East posed such a serious threat to al-Kāmil in Egypt that he was persuaded to cede Jerusalem temporarily, hoping no doubt to recover it later.[123] He was prepared to sacrifice Jerusalem, and to ride the wind of condemnation for doing so, in order to leave himself a free hand to deal with an-Nāṣir Dā'ūd in Damascus. But the real reason prompting him to do so was not the threat to his freedom of action posed by Frederick's forces in Palestine, but rather the potential threat to his home base in Egypt posed by Frederick's fleet.

122. Great Britain, Air Ministry, Meteorological Office, *Weather in the Mediterranean*, 2nd ed. (London, 1962), 2: 77-8.

123. See, in particular, Humphreys, *From Saladin to the Mongols*, 203 and Giles, *Emperor Frederick II's Crusade*, 161-215.

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News

Sparrow-hawk Exhibit Reinstalled

The colonial vessel *Sparrow-hawk*, wrecked in 1626 and excavated in the nineteenth century, is the centerpiece of a new exhibit at the Pilgrim Society's museum, Pilgrim Hall. The exhibit presentation on this early preserved vessel is largely the result of work done by the late William A. Baker and H. Hobart Holly. For background on *Sparrow-hawk*, see *The American Neptune* 13, no. 1 (1953): 51-64. Pilgrim Hall is located at 75 Court Street, Plymouth, MA.

Irish American Funding

The Irish American Cultural Institute, an educational foundation, administers the Irish Research Funds program to support the study of Irish-American history. Grants ranging from $1,000 to $5,000 are available for projects in all disciplines which address this topic. The deadline for applications is 15 August 1992. Contact the Institute at 2115 Summit Avenue, University of St. Thomas (#5026), St. Paul, MN 55105 for further information.

New Research Guides from Philadelphia

The Philadelphia Maritime Museum has produced two new volumes relating to manuscript collections. *Shipbuilding at Cramp & Sons: A History and Guide to Collections of the William Cramp & Sons Ship and Engine Building Company (1830-1927) and the Cramp Shipbuilding Company (1941-46) of Philadelphia* contains a history of shipbuilding and technical data on ships from that yard. Another research guide is entitled *John Lenthall, Naval Architect: A Guide to Ship Plans and Drawings of American Naval and Merchant Vessels 1790-1874, With a Bibliography of Works on Shipbuilding Printed in Great Britain, France, and the United States, 1701-1882, Collected by John Lenthall*. It includes a biography of Lenthall, descriptions of the collection, and technical data for the vessels represented therein. For more information, contact E. Ann Wilcox, Librarian, Philadelphia Maritime Museum, 321 Chestnut Street, Philadelphia, PA 19106.

Exploration of the Pacific in Prints

A collection of more than ten thousand prints relating to the Pacific Ocean, islands, and bordering lands has been received and is currently being catalogued at the Peabody Museum of Salem. The collection was compiled over more than sixty years by Mr. Donald Angus of Hawaii and contains prints dating from the sixteenth to the nineteenth centuries. Once completed, the computerized catalogue will be a useful resource for accessing information on a wide range of topics addressed in this collection.

To mark the new accession, a selection of prints from great eighteenth- and nineteenth-century voyages of exploration will open at the Peabody on 28 May 1992. *Pacific Voyages of Exploration: Prints from the Age of Enlightenment and Discovery* will feature engravings, lithographs, and original art from artists who participated in the voyages of Cook, La Perouse, d'Urville, and Kotzebue.

Proceedings of Underwater Conference

Underwater archaeology proceedings from the Society for Historical Archaeology's 1991 annual meeting in Richmond, Virginia are now available. These proceedings are an essential resource for underwater archaeologists and anyone interested in keeping up-to-date in the field. To purchase these proceedings, write to the Society at P. O. Box 30446, Tucson, AZ 85751-0446.

Fellowship for Study of Minorities in Maritime History

Mystic Seaport Museum invites applications for its annual competition for the Paul Cuffe Memorial Fellowship. Up to $2,400 is offered to support research on the participation of Native and African Americans in maritime activities of southeastern New England. To apply, send a full description of the proposed project, a preliminary bibliography, brief project budget, your complete resume, and the names and addresses of three references to Director, Munson Institute of American Maritime Studies, Mystic Seaport Museum, P. O. Box 6000, Mystic, CT 06355-0990. Deadline for applications is 1 July 1992.

International Congress of Maritime History

The International Maritime Economic History Association announces the First International Congress of Maritime History, to be hosted by the Merseyside Maritime Museum, Liverpool, England. The conference will take place from 17 to 21 August 1992 and will coincide with the arrival of the tall ship flotilla. For information, contact the Congress Coordinator, Adrian Jarvis, Merseyside Maritime Museum, Albert Dock, Liverpool L3 4AA, England.

Book Reviews

WILLIAM D. PHILLIPS AND CARLA RAHN PHILLIPS, *The Worlds of Christopher Columbus* (Cambridge: Cambridge University Press, 1992). Xii + 332 pages, illustrations, maps, bibliography. $27.95.

At first glance, it seems an impossible assignment to write an authoritative new biography of much-studied Christopher Columbus and at the same time present a coherent picture of the fifteenth-century European (and world) background which adequately explains the multiple motives behind Renaissance-era expansion, outlines the history of each of the four voyages, and, finally, sums up with a chapter on the overall impact — the "Columbian exchange." All this, moreover, to be done in such a fashion as to indicate and assess each historiographical debate, and yet be eminently readable and of manageable length including appropriate notes, bibliography, and illustrations.

The result might easily be superficial. This book is nothing of the sort, owing to the outstanding expertise and careful work of the authors, both of whom are professors of history at the University of Minnesota. William Phillips has to his credit books on fifteenth-century Castile and the early history of the slave trade, both important subjects for Columbus; Carla Phillips has studied the Spanish economy in detail in the period 1500-1750 in an earlier book and is the author of *Six Galleons for the King of Spain* (1986), a masterful study of seventeenth-century bureaucracies, economics, and seafaring which deservedly won the American Historical Association's Leo Gershoy Prize among other honors.

In this case, collaboration has produced an authoritative survey, one in which phrases such as "we believe" or "in our opinion" are not mere literary devices, but clearly are the product of much thought and discussion. It is not so much that *The Worlds of Christopher Columbus* breaks new ground or offers startling new evidence — indeed, the authors are always careful to distinguish speculations from conclusions based on hard data — but rather the interweaving of economic, political, religious, and intellectual "worlds" is successfully accomplished in such a way as to present Columbus as a product of his times; in other words, someone else would have crossed the Atlantic soon enough had he not done so. Of particular value in this regard is the authors' stress upon the role of the discovery, administration, and exploitation of the mid-Atlantic islands, the Canaries, Azores, and Cape Verdes, as preliminaries to what was later done in the Caribbean. On the other hand, it was not simply luck that put Columbus first. His combined self-assurance and showmanship (he was "one of the greatest salesmen of his time" [p. 186]) brought him out of the herd of seafarers clamoring for royal patronage and sent him westward. Clearly, however, those same qualities made him a biased reporter, a self-deluding prophet, and an inept administrator, all of which weaknesses the authors make as clear as his strengths. Much of this is well-known, of course, to the readers of Samuel Eliot Morison's *Admiral of the Ocean Sea* (1942), a work focused closely upon the details of the voyages themselves, or more recent studies. But even the knowledgeable student will find here an up-to-date summary of what is known, for example, of those areas with the weakest documentation, such as the explorer's early life or progress to Portugal.

Inevitably, it is possible to take issue with a generalization here or there. It is not easy, obviously, to summarize much of world history in a lengthy and important era, and the authors rightly make reference to other supportive syntheses such as those by historians Fernand Braudel, Carlo Cipolla, Philip Curtin, Archibald Lewis, Robert S. Lewis, William McNeill, John H. Parry, and others. The weakest link is the Near East; for example, the remark that the Ottoman Empire "had controlled all approaches to Asia by land from the early fifteenth century on, [and thus] formed a barrier between European merchants and the sources of Asian spices, silks, and other coveted goods" (p. 36) is true only if "by land" means directly from Europe to Asia Minor. In fact, the Ottomans took Mamluk Syria and Egypt only in 1516 and southern Iraq in the 1530s. The problem was the heavy tariffs collected by Muslim middlemen, not actual barriers to trade. Similarly, on a map of trade routes of the era

(p. 49), a major link from Mecca cross-country to Oman is shown, though no substantial trade ever passed over this seldom-used track during this period. The sea routes of the same map, on the other hand, omit a major monsoonal link from Aden to the West Indian coast. The very useful notes and bibliography perhaps furnish the answer: few modern works on the Ottomans are listed, and George Hourani's *Arab Seafaring* (1963), a very useful introduction, has not been used.

These are small quibbles, however, and cannot really detract from a book which overall is a *tour de force*, a book to be recommended to the student seeking a one-volume modern summary on Columbus and his era, but also a book which may be read with profit even by scholars familiar with this often-told (and often wrongly told) story.

BRITON C. BUSCH

Colgate University

G. FOSTER PROVOST, *Columbus: An Annotated Guide to the Scholarship on His Life and Writings, 1750-1988* (Detroit: Omnigraphics, Inc. for the John Carter Brown Library, 1991). 6¼" x 9½", hardcover, xxxii + 225 pages, indexes. $48.00.

DAVID HENIGE, *In Search of Columbus: The Sources for the First Voyage* (Tucson: The University of Arizona Press, 1991). 6¼" x 9¼", cloth, xiii + 360 pages, 2 maps, bibliography and notes, appendices, index. $24.95.

Undoubtedly, this quincentenary year of the first landing by Christopher Columbus at some as yet undetermined site in the Bahama Islands will witness the appearance of a plethora of books and articles on Columbus and his voyages. The two under consideration here are both useful contributions to the already abundant literature on these topics.

Professor Provost, Research Associate for Columbus Studies at the John Carter Brown Library at Brown University, has produced an admirably annotated bibliography of 780 items selected from an initial list of over four thousand known publications which appeared between 1750 and 1988. The 1750 date was chosen because virtually every printed reference to Columbus before that date is listed in the six volumes of *European Americana . . . 1493-1750* produced by the John Carter Brown Library. Provost also notes in his introduction that most publications prior to 1875 are obsolete because the early scholars did not have access to the relevant documents.

The bibliography is divided into seven sections: Collections of Sources, Texts, and Studies (fourteen pages); Texts of Primary Documents (eighteen pages); Studies of Primary Documents (ten pages); Columbus's Life (sixty-three pages); Columbiana (eighty-four pages); Bibliographies (six pages); and Columbus Scholarship: Questions — Methods (six pages). Each section has between two and fifteen subsections. The entries in each section are arranged in chronological order from the earliest to the most recent. Annotations provide summaries or indicate the scope or purpose of each book or article listed.

Provost provides some excellent information in his eleven-page introduction. Most importantly, he explains his criteria for choosing the 780 items from the initial test of four thousand and the sources of information he used to compile the initial list and to choose the final entries. Basically, he excluded nearly all items dealing with Columbus's birthplace, nationality, religion, and saintliness, as well as purely literary works. He also left out all those items which, in his opinion, did not really contribute anything to the scholarly study of Columbus. He notes that what is really needed for future scholarship on Columbus is a fully annotated and authentic critical edition of all the existing Columbus documents.

The three indexes of authors and editors, persons and places, and topics make this bibliography easy to use, especially in light of the chronological arrangement of the entries. Provost also provides a useful list of abbreviations used in the citations. The principal thing lacking is that non-English titles are not translated, as is done in many English bibliographies. Nonetheless, Provost has produced a very good bibliography which ought to be owned by any serious Columbus scholar as well as by any college or university library at an institution where early American history is taught.

David Henige gives ample evidence of the need for an annotated and authentic critical edition of the writings of Columbus. Henige apparently is the first writer to subject Columbus's logbook, or *diario*, to disinterested textual criticism. Anyone contemplating keeping a diary should look carefully at this book for hints on how to leave a record that is clear in its descriptions, accurate in its timing, and carefully enough worded so that what is written will not be misinterpreted or misunderstood.

There are only a few primary sources for the first voyage of Columbus. First in importance is his *diario*. Columbus's letters written during and after the voyage are also important. Bartolome de las Casas's *Historia de las*

Indies and Fernando Colon's *Le Historie della vita e dei fatti di Cristoforo Colombo* are the other major primary sources. The greatest problems are with the *diario* and the discrepancies between it and the information in Las Casas's *Historia* and Colon's *Le Historie*.

Rather that take a great deal of time analyzing the records of the entire first voyage, Henige concentrates on the activities which took place between 11-12 and 15 October 1492. The major problem is that the original logbook or *diario* by Columbus has not existed since 1493. Upon Columbus's return to Spain, that original was turned over to King Ferdinand and Queen Isabella, who immediately put scribes to work making at least two copies. They no longer exist either. The earliest known copy is that made by Las Casas sometime between 1493 and about 1527. It is not known if he used one of the first transcriptions or a later one. No one knows for sure what errors, omissions, or additions may have been made in the various transcriptions or for what reasons they might have been made. Likewise, no one knows how honest and straightforward or how deceptive a recorder Columbus was. A few years prior to 1492, the monarchies of Spain and Portugal had signed an agreement to divide the world. There is a possibility that Columbus may have known he had drifted accidentally or sailed intentionally into an area which legally belonged to Portugal and that he purposely wrote vague descriptions or left out information, such as distances and directions sailed, precise times of sailing from or arriving at a given place, and other information that might help pinpoint his location at a given time. It is also possible that Columbus included all this information and that the original or later scribes deleted or altered the original information to avoid a conflict between Spain and Portugal over territorial rights. Las Casas occasionally included in his *Historia* what appears to be information quoted from the *diario* that is not in his own transcriptions of that record. In other places in the *Historia*, his summaries of sections of the *diario* include information not in the *diario*. Colon does some of the same things.

In addition to looking specifically at the primary sources, Henige looks at what various editors and translators have done to the texts of those documents and how what they did has affected other scholars. He frequently points out that some editors, authors, or translators have given opposite meanings to a word or phrase. One example is the way in which various scholars have interpreted *"cargar las vilas"* (pp. 143-44). Some have translated or interpreted that phrase to mean to make or crowd on sails, while others have interpreted it to mean clew up, furl, or haul in sails. Henige also discusses how various authors, editors, or translators have used different lengths for a league (pp. 152-53). He concludes that the scholars interpreted certain phrases and words according to where they wanted Columbus to be on a given day in order to give strength to their arguments in favor of a given landfall site. The author also makes some interesting remarks about the changes throughout history in editing practices used by original authors of diaries and editors of later published editions of those works. He notes, for example, that the diaries of Gideon Welles and Anne Frank were considerably changed from their original day-by-day accounts before they were actually published.

Henige's forty-four-page bibliography of approximately 675 items includes many works not included by Provost, but then Henige has citations to many topics totally unrelated to Columbus. There seem to be no criteria for inclusion by Henige other than the fact that he used or looked at a book or article he listed. There are no annotations at all in Henige's bibliography.

I suspect that if Henige were to give Columbus a grade in logbook keeping, it would be a very low one. This may be unfair to Columbus, since no one has seen his original composition since it was surrendered to the Spanish crown in 1493. Too many variables exist concerning who may have made changes and when and why they may have been made.

Henige certainly does an excellent job of analyzing the activities of Columbus and his fleet over a four-day period, as well as what successive transcribers, translators, editors, and interpreters have done to the existing primary documents over the past couple of centuries. The average naval or maritime historian might not find this volume particularly useful, although it can be interesting reading. However, because of its content and the techniques the author has employed, the volume will be of interest to any Columbus scholar as well as to any documentary editor.

CHARLES R. SCHULTZ

Texas A&M University

JAMES C. BRADFORD, ED., *Admirals of the New Steel Navy: Makers of the American Naval Tradition, 1880-1930* (Annapolis: Naval Institute Press, 1990). Xxi + 427 pages, notes, bibliography, index.

In *Admirals of the New Steel Navy*, James Bradford has brought together excellent biographical essays of thirteen officers who were at the peaks of their careers in the half-century after 1880. This volume follows two earlier chronological volumes *(Command Under Sail, 1775-1850* and *Captains of the Old Steam Navy, 1840-*

1880), and a fourth is planned to include officers from 1930 to 1990. The previous two books have set high standards of scholarship, and *Admirals of the New Steel Navy* maintains that tradition.

Bradford regards the half-century chronicled in this work as a distinct period in naval history, an era that "had more in common with a modern Navy than with the sailing navy and the old steam navy that came before it" but which "formed a distinct unit — the New Steel Navy" (p. xiii). Bradford further judges "the two decades on either side of 1900" to have had "a greater burst of reformist energy than any other period in the navy's history" (p. xvii). Hence, he feels that all thirteen officers represented here are in some sense reformers. Although reform may be as good an organizing principle for the book as any, it is a fuzzy and often elusive concept. The men in the book frequently disagreed among themselves. Robley D. Evans, for example, dismissed Bradley A. Fiske's telescopic sight as a ridiculous idea (p. 125). At times it seems that for Bradford a reformer was merely someone wishing to have a newer or bigger navy, and it is difficult to find any officer arguing for a smaller or weaker force.

What the concept of reform does help underline, however, is the fact that the importance of these admirals comes not from the naval engagements they won but from their contributions to the growth, development, and maintenance of the navy in peacetime. This half-century of naval history lacks major fleet actions by American vessels. David F. Trask, for example, laments that William S. Sims "ought to have commanded a battle fleet" and "should have become a swashbuckling seafighter, but he never gained the opportunity to do so" (p. 282), and other authors could easily have made similar statements. Even men like William T. Sampson, Winfield S. Schley, and George Dewey, who owe their fame and inclusion in this volume to the battles of the Spanish-American War, engaged only in brief, lopsided encounters.

To represent this half-century, Bradford has selected a diverse group of officers and a distinguished group of scholars to write the biographies. The officers range from the pugnacious Robley D. Evans to the diplomatic Mark L. Bristol (described by Richard W. Turk and William R. Braisted, respectively). The remaining selections are: Stephen B. Luce, by John Hattendorf; Alfred Thayer Mahan, by Robert Seager II; French Ensor Chadwick, by Malcolm Muir, Jr.; Bradley Allen Fiske, by Benjamin Franklin Cooling; William T. Sampson, by Joseph G. Dawson III; Winfield Scott Schley, by Harold D. Langley; George Dewey, by Vernon L. Williams; Henry T. Mayo, by James C. Bradford; William Sowden Sims, by David F. Trask; William Shepherd Benson, by Mary Klatchko; and William A. Moffett, by Clark G. Reynolds. All these admirals, however, were line officers. In *Captains of the Old Steam Navy*, Bradford included a selection on engineer Benjamin F. Isherwood, but he does not provide an account of any similar person in this period. It would have been valuable, for example, to have a biography of someone like George W. Melville, who survived the ill-fated arctic expedition of the *Jeannette* to become chief of the Bureau of Steam Engineering in 1887, a post he held for sixteen-and-a-half years.

Throughout this volume, the authors treat their subjects fairly but are not overawed by them. As a result, the individual essays frequently offer new insights into the officers' careers. Turk, for example, shows Evans to have been "skilled in the art of self-promotion" (p. 75) and not simply the bluff sailor he presented himself to be, and Trask corrects the extreme praise of Sims found in Elting E. Morison's biography.

In total, this is an outstanding book. The individual essays are well-researched and gracefully written; there is not a weak contribution in the volume.

FREDERICK S. HARROD

United States Naval Academy

JORDAN VAUSE, *U-boat Ace: The Story of Wolfgang Lüth* (Annapolis: Naval Institute Press, 1990). Xiii + 235 pages, ISBN 0-87021-666-X.

U-boat aces, iron coffins, and grey wolves continue to exercise their beguiling influence on the book market. At their best, such books help us understand the complex interfacing between politics, war, and personal morality; at their worst, they invite voyeuristic speculation. Of course, Germany's submarine warfare — her technologies, policies, and heroes in two world wars — has been scrutinized in balanced histories and analyses on both sides of the Atlantic. Yet much still remains to be done. Significantly, the greatest gap in our knowledge concerns the human dimension of Germany's submarine experience.

Central to such experience is the eye-catching and marketable theme of the "U-boat ace." A loosely used term in U-boat literature, it generally refers to German submarine captains who had destroyed at least 200,000 tons of Allied shipping. Such heroes are widely deemed the quintessence of the U-boat experience. The first three "aces," Günther Prien, Joachim Schepke, and Otto Kretschmer, had become benchmarks for bravado as early as 1941, and books by and about them have left us their

legacy. During the last fifty years other books have followed, some by authors in search of a hero, others by authors in search of themselves. The topic is fraught with ambiguity.

U-boat ace Wolfgang Lüth is a case in point. The youngest four-ring captain in the German navy, he had created much mythical panache in his own day as tonnage king, disciplinarian, avid patriot, closet Nazi, sentimental romantic, and pundit of naval leadership. Ironically, having survived the glories of war, he was shot to death by a nervous German guard outside the famous Naval College at Mürwik, which he commanded, six days after Germany's capitulation. "U-boat ace" Erich Topp's foreword to Vause's book describes Lüth succinctly: ". . . like the knight Parsifal, [he] died a young man, but his conduct and his achievements had won for him the respect of his men and the recognition of the world." Vause hoped to examine this claim and to search for, in Topp's words, the "many-headed beasts" of the apocalypse which might have dwelt in Lüth's breast. Unfortunately, Vause was simply not equipped for the job.

Despite the muted trumpetings of the jacket blurbs, Vause's book is a failure. Superficial and uneven, it espouses both the style and approach of a high school newspaper. The author's cub-reporter journalism reveals no mastery whatsoever of his material. Nor does he understand the context he proposes to explore, and in which his historical figures actually lived — Germany's social history, politics, naval warfare, submarines, and technology. "National Socialism, or Nazism, is hard to avoid in studies of German officers in World War II," Vause reassures us halfway through the book. "There is no use ignoring it" (p. 123). Yet this is precisely where he lacks the most finesse. He is even unaware of the two most important works in the area of his self-proclaimed expertise: the American studies by Eric Rust ("Crew 34: German Naval Officers Under and After Hitler," Ph.D. diss., University of Texas, 1987, published in 1991 by Greenwood as *Naval Officers Under Hitler: The Story of Crew 34)*, and Charles S. Thomas ("Bluejackets and Brownshirts: The German Naval Officer Corps in the Era of National Socialism 1926-1939," Ph.D. diss., Vanderbilt University, 1983). Thoroughly revised and expanded, the latter appeared as the excellent book *The German Navy in the Nazi Era* (Annapolis: Naval Institute Press, 1990). Instead, Vause has relied upon an unsystematic collection of publications and has made use of oral history and "eyewitness" reports.

His awkward mixture of fantasy and gratuitous commentary tries the reader's patience at every turn. Thus, for example, his condescending introduction braces us for some supposedly shocking news: "I will warn you now. You may not like what you read about Lüth. He was a Nazi" (p. xxi). Then, after slithering his way with undisguised glee through pages of sophomoric judgments, he proclaims: "Yes, Wolfgang Lüth was a Nazi" (p. 125). Soon his unerring flippancy tells us that "Germany died slowly in its boots" (p. 198), but encourages the flagging reader that "the story is not over yet. Not yet." (p. 201). He finally rewards our tenacity with a curious judgment: "And here the story of Wolfgang Lüth ends. Not in death or defeat, but in remembrance and hope for the future" (p. 216). This is a muddled book with a muddled message. By publishing it, the Naval Institute Press has sent a muddled message about its own standards as well.

MICHAEL A. HADLEY

University of Victoria

MICHAEL SIMPSON, *Anglo-American Naval Relations, 1917-1919* (Aldershot, England: Scholar Press for The Navy Records Society, 1991). Xvii + 644 pages, list of documents, sources, glossary, maps, footnotes. Available with membership in NRS of £15.

The Navy Records Society has published one or two excellently researched volumes a year for some ninety-eight years, all associated with the history of the Royal Navy in some way. But this 130th volume must rate as one of the most fascinating and valuable to date.

Anglo-American Naval Relations tells of the close and highly successful cooperation that developed between the U.S. Navy and the Royal Navy after the United States' entry into the First World War early in 1917. From sources in England and the U.S., Professor Simpson has uncovered the correspondence, confidential reports, notes, and memoranda that passed between the two allied navies, between those in the commands and their superiors in the Naval Headquarters, and between the commanders and the politicians. From these documents, he has selected those particularly illustrative of the relations between the navies. Simpson has divided his book into nine parts, and each is introduced with a few pages of excellent lead-in comments. While he identifies the writers, the recipients, and those mentioned in the documents, for the most part the author lets the correspondence speak for itself.

After brief sections on "Preliminary Discussions" and the "American Entry into the War," Simpson covers "General Cooperation," then wisely subdivides the wealth of material into five parts: "A/S Warfare," "The Grand Fleet," "The North Sea Barrage," "The Mediterranean,"

and "Naval Events in the Western Hemisphere." The final, and currently the most meaningful, section is called "Britannia, Columbia, and the Struggle for Neptune's Trident, April 1917 to May 1919." This last section is the least flattering to the participants. It shows the senior politicians, the First Lord, and the U.S. Secretary of the Navy struggling not for "peace in our time" and an end to armament races, but for mastery of the ocean lanes, with the resurgent U.S. Navy trying to wrest the "trident" from Britain's ocean-controlling Navy, and the Royal Navy fearful of a potential challenger at sea. By 1919, each country was apprehensive that the other would dominate the emerging League of Nations and then dictate world politics without due consideration for the other's requirements.

The most fascinating part of the story is the amazing cooperation which took place between the two navies. At Queenstown, Ireland, for example, the small American destroyer force (never more than about 6 percent of the total) managed to work with the admittedly difficult RN Rear Admiral Bayly. Similarly, five U.S. battleships were fully integrated into the Grand Fleet. The same integration occurred at the Otranto and Gibraltar barrage points in the Mediterranean. New to the British was the rash enthusiasm of Franklin D. Roosevelt, then Assistant Secretary of the Navy, for the North Sea anti-U-boat mine barrage stretching from Scotland to Norway, and for a huge building program of Ford-built subchasers. The former suffered from a lack of suitable mines, anchors, and laying vessels which neither navy could supply, and the latter from an inability of the shipbuilding industry to build at the rate promised. Both navies discussed their problems amicably, however, and the naval leaders were understanding of the others' positions.

While the U.S. Navy never provided more than about 10 percent of the force in any area except in the North Sea barrage, the three cruisers, sixty-four destroyers, eighty-four antisubmarine vessels, and eleven submarines deployed by mid-1918 contributed much to a common objective. The point was eventually grasped by the Navy's hierarchy, and even by President Wilson, that defeat of the U-boats was paramount, almost at the expense of all else, a conclusion not emphasized by previous historians. The American Admiral in the field, Rear Admiral William S. Sims, became so thoroughly integrated with the Royal Navy's plans that he was suspected at home of being a British apologist. Visits of the U.S. Navy's Chief of Naval Operations, Admiral W.S. Benson, and Secretary of the Navy Josephus Daniels to Britain soon persuaded them that Sims was merely emphasizing facts that the British had learned the hard way. This spirit of top-level cooperation was incredibly fortunate, yet surprising among allies who had been foes only fifty years before. Only in the American concern about postwar power was there any sign of anti-British feelings.

The end result was a common success. Close escort of convoy was, after a hesitant start, accepted by both navies as the major tool in beating back the U-boats, without which the war could not have been won and could easily have been lost. (While the Royal Navy remembered that lesson in 1939, the Americans did not in 1941-42, and at that time, internavy animosity flourished, particularly within the soul of Fleet Admiral Ernest King in 1941.) Simpson's few references to the Italian Navy, whose command would not allow its ships to be used, much less integrated in the Mediterranean war, and to the difficult French with their sensitive *amour propre*, provide a sharp contrast to the Royal Navy/U.S. Navy cooperation.

In sum, Simpson's collection of some 450 documents (some of which are reproduced in the volume) make for fascinating reading about a salutary example of internavy cooperation.

F. M. McKee

Markdale, Ontario

James A. Lewis, *The Final Campaign of the American Revolution: Rise and Fall of the Spanish Bahamas* (Columbia, SC: University of South Carolina Press, 1991). Xi + 149 pages, maps, index, bibliography.

Until the publication of this volume, the Spanish occupation of the Bahamas at the very end of the American Revolutionary War was an almost unknown event in that conflict. The invasion of the Bahamas was a sideshow to an intended Spanish attack on Jamaica, which never took place because the French and Spanish lost naval superiority in the West Indies at the Battle of the Saints. The Spanish campaign in the Bahamas was not an epic clash of arms, and, in fact, the leadership on both sides spent more time feuding and bickering with each other than combating the enemy.

The Spanish army and navy were at loggerheads during the American Revolutionary War; thus, the occupation of the Bahamas was carried out by units of the Spanish army with most of the naval support for the operation being supplied by the American warship *South Carolina*. Nassau fell to the Spanish and the Americans without a fight and was then recaptured by an American Loyalist force after a skirmish. Pound for pound, more paper was generated by disputes among the ranks of both the victors and the vanquished during and after the Spanish capture of Nassau than the total amount of

munitions expended by both sides to fight the entire campaign. The commander of the Spanish forces, Juan Manuel de Cagigal, and the commander of the *South Carolina*, Alexander Gillon, had a falling out in Nassau Harbor when the invading force arrived. The British in the Bahamas were so divided that they could not offer any resistance to the Spanish. When the Spanish took control of Nassau, they further split the British into warring factions. The new Spanish governor of the Bahamas, Antonio Characo y Sanz, then got into a disagreement with the Spanish authorities in Cuba that went on for years. Moreover, when American Loyalists retook Nassau for the British in 1783, there was a split between Loyalists and the British in the Islands.

The bickering and feuding went on after the war. The governments of Britain and Spain had to resolve the problems arising from the fact that the Loyalists recaptured Nassau after the end of the war. With the advent of peace in the Bahamas, the British fell out with each other over punishing those people who appeared to have assisted the Spanish during the occupation. Gillon returned to America and, for the rest of his life, had to fight off creditors who were demanding payment of monies spent while he was in command of the *South Carolina*. Francisco de Miranda, aide-de-camp to Characo y Sanz and a future Latin American revolutionary, found himself forced out of the Spanish army and had to flee to the United States, where he was then challenged to a duel for mistreating Americans at Nassau. Both Cagigal and Characo y Sanz had their army careers destroyed by feuds arising out of the campaign in the Bahamas and found themselves caught up in bureaucratic tangles and legal disputes for years.

With great skill, Professor Lewis illuminates all these tangles and much more about the Spanish campaign in the Bahamas. He fails to make the point, however, that the British defeats and near-defeats — Newport, Pensacola, Savannah, Yorktown, the Bahamas — were all a direct result of the weakness of the Royal Navy during the American Revolutionary War. Nevertheless, this is a valuable book, for it sheds much light on a forgotten campaign of the American Revolution, and it is well-written, clearly organized, and superbly researched in American, Bahamian, British, and Spanish archives.

DAVID SYRETT

City University of New York

BERNARD ET MIRIELLE DE MAISONNEUVE, *Le* Maidstone: *miroir d'une mémoire* (Saint-Gilles-Croix-de-Vie: Arhims, 1991). 190 pages, profusely illustrated with photographs, drawings, diagrams.

Maidstone, a 50-gun Royal Navy vessel launched in October 1744, capsized on 8 July 1747 in the Baie de Bourgneuf off Noirmoutier (near Nantes) on the west coast of France. Her scattered wreck site was located in 1969. This volume describes the recent (1981-1990) archaeological and conservation studies of the site.

Published by the Association de Recherche Historique Maritime et Sous-Maritime, this marvelously illustrated book reaches a wide audience without compromising integrity. As such, it is a fine addition to the general-knowledge genre of underwater archaeology publication.

Solid work on this level serves several functions. First, it provides an informal update for other professionals. Second, it satisfies an intense interest in the science of underwater archaeology on the part of the general public (and particularly our future scientists — intelligent children). Finally, it promotes standards of excellence in archaeology and conservation through its attempt to hold the line against random pillage of archaeological sites by sport divers.

The authors provide ample historical background. A brief description of the conflict between England and France which culminated in North America with the British conquest of Quebec in 1759 and the Treaty of Paris in 1763 complements the documentation of the vessel's construction and her command.

Photographs and drawings accompany the descriptions of artifacts, including the largest of these, the vessel herself. Among the artifacts are guns, shot, grapeshot, grenades, a pistol, a sword hilt, navigational instruments, sounding weights, blocks, a bell, a candlestick and snuffer, a spigot, buckles, buttons, coins, a pewter plate and spoons, bottles, a teapot, and a coffee pot.

The site of *Maidstone* is of modest significance relative to that of, say, *Mary Rose*. The latter vessel yielded an enormously broad range of artifacts, the recovery of which greatly extended our understanding of shipboard life in the Tudor period and led to new methods for conservation. The study of wrecks such as that of *Maidstone* are very useful, however, because they amplify our understanding and prepare us to investigate more complex and perfectly preserved sites, such as that of *Hamilton* and *Scourge*. These two armed 1812 merchant schooners lie, intact and in a perfect state of preservation, under three hundred feet of water in Lake Ontario.

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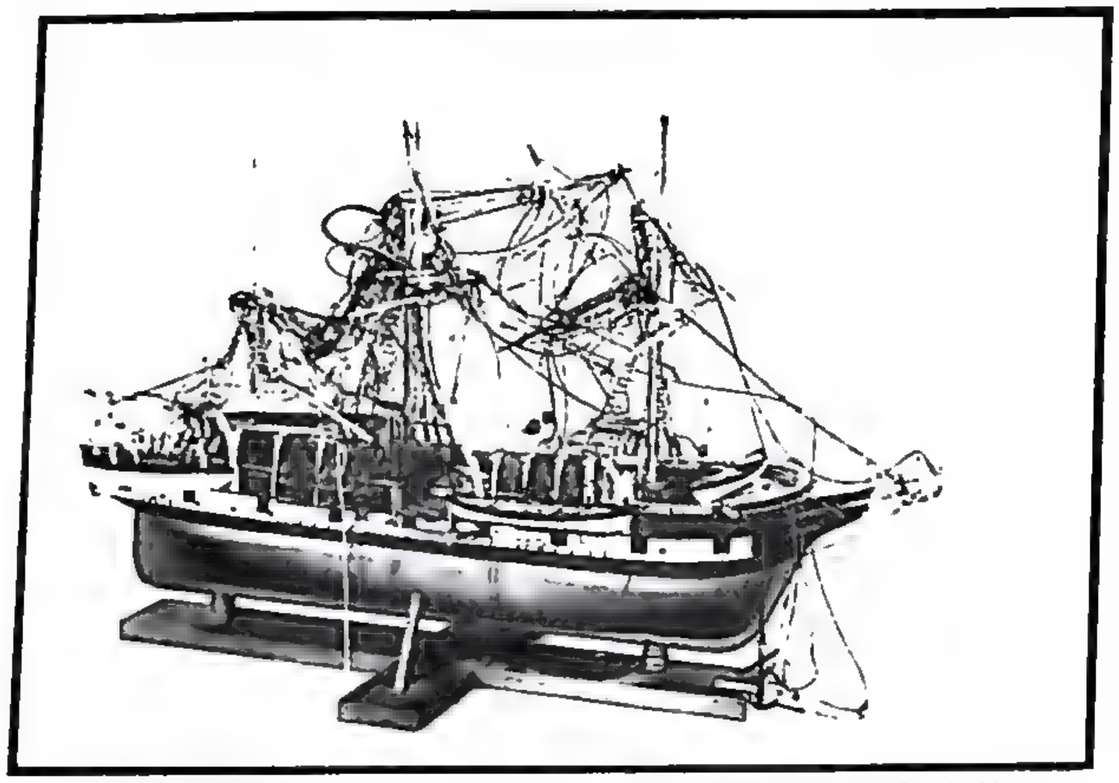

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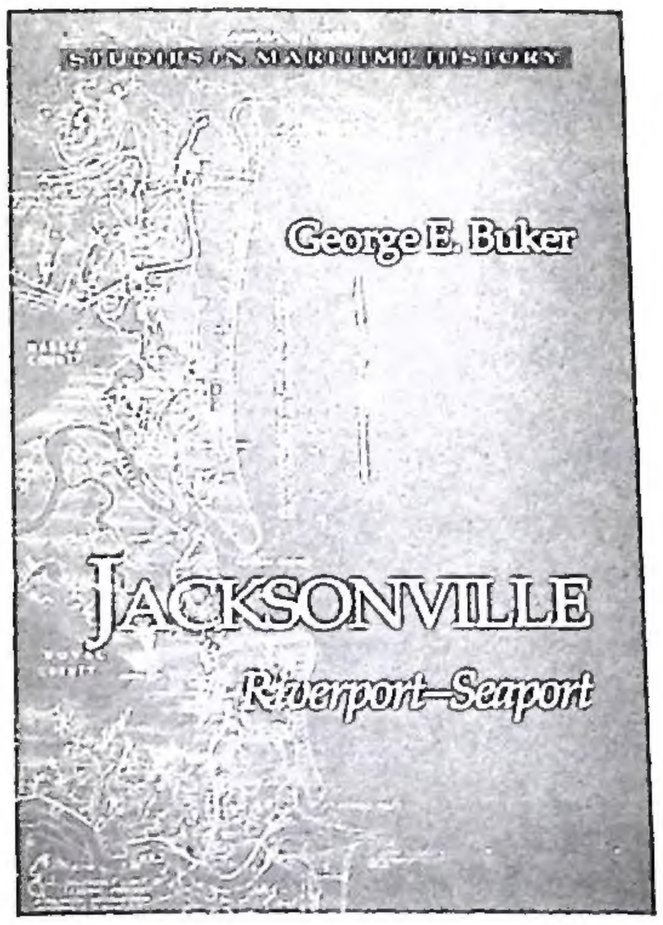

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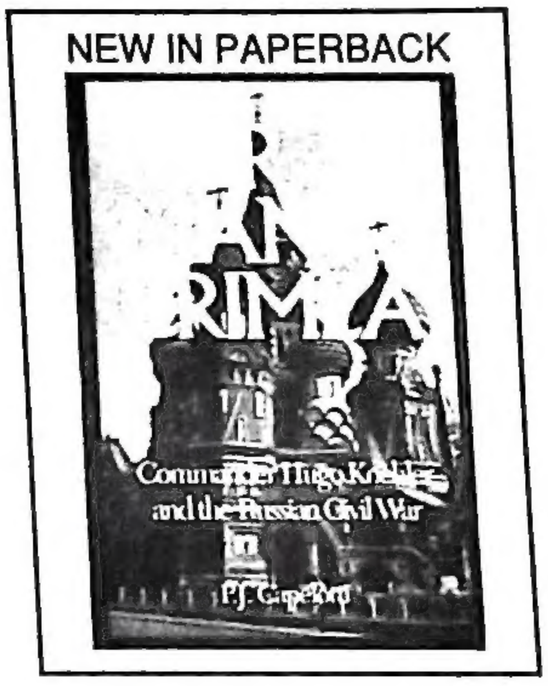

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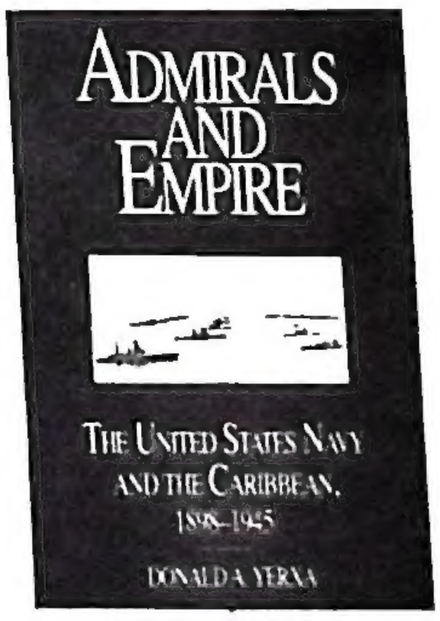

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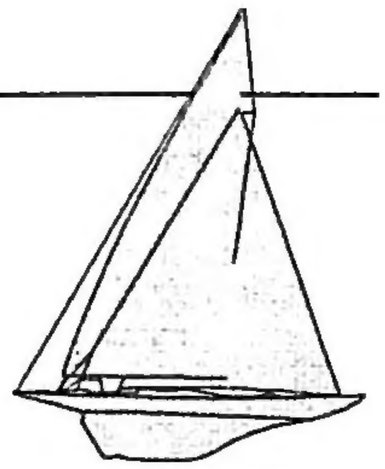

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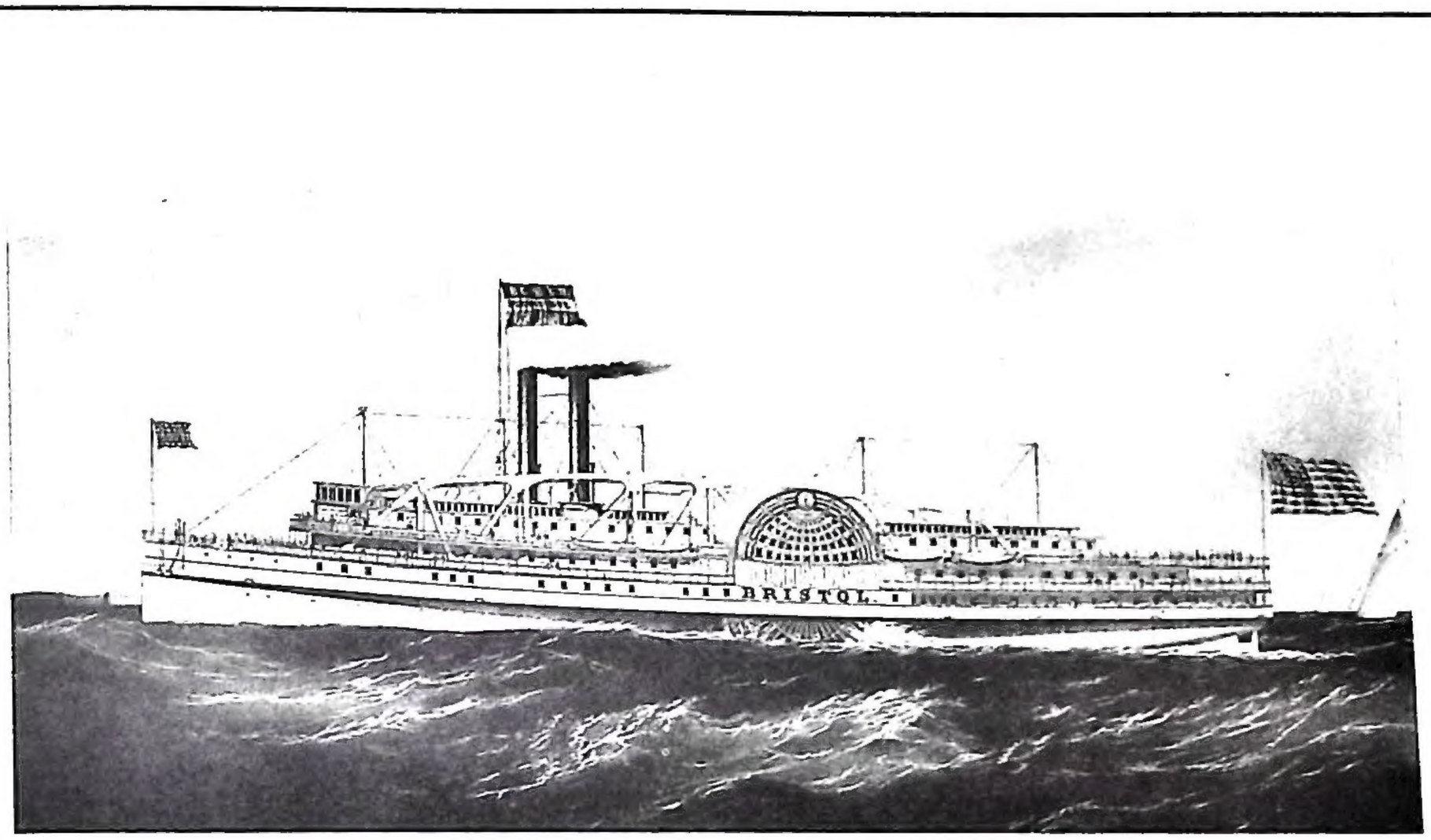

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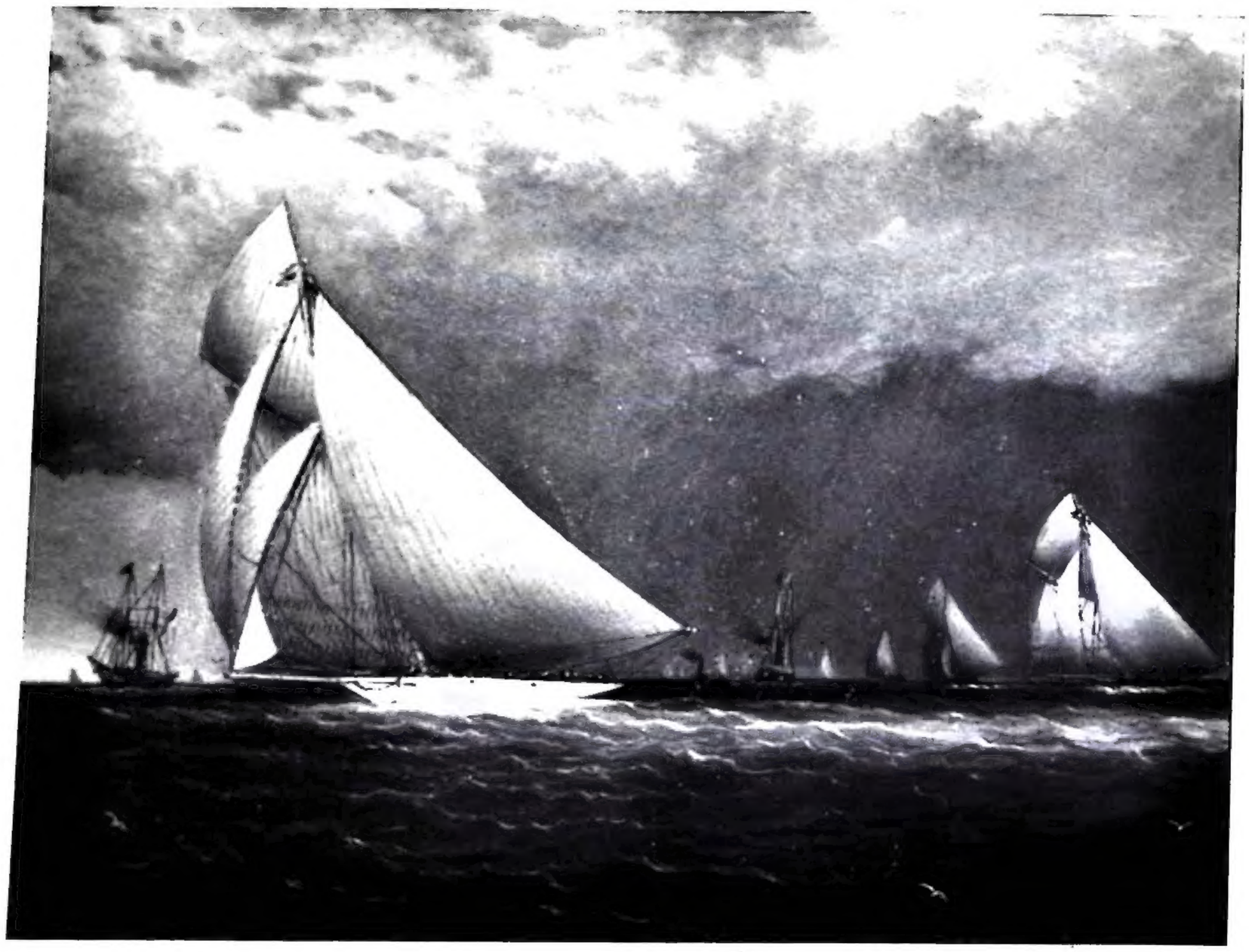

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